September 17, 2018

Via Electronic Filing

The Hon. Ajit Pai
The Hon. Michael O'Rielly
The Hon. Brendan Carr
The Hon. Jessica Rosenworcel

Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Dear Chairman Pai and Commissioners O'Rielly, Carr, and Rosenworcel:

The Internet Innovation Alliance (IIA) submits for the Federal Communications Commission's (FCC's) consideration in GN Docket No. 18-231 and GN Docket No. 18-238 the attached white paper (*Evolving Preferences – Consumer Preferences Tilting Towards Mobile Broadband*), as well as the independent consumer market research survey report used to form the white paper's conclusions. As detailed in the white paper and highlighted below, up-to-date information about consumer preferences and activities shows that consumers believe that fixed and mobile broadband services are essentially the same thing. As a result, the FCC should revise its prior conclusion and find that fixed and mobile broadband services are now functional substitutes.

On August 9, 2018, the FCC released its *14th Broadband Deployment Report Notice of Inquiry* (*NOI*).[1] In the *NOI*, the FCC seeks comment on "whether and to what extent fixed and mobile services of similar functionality are substitutes for each other."[2] The FCC seeks comment on whether there have been developments that support a different conclusion than the FCC reached in its earlier *2018 Broadband Deployment Report*, as well as "whether or not and in what circumstances, if any, mobile and fixed services should be considered substitutes."[3] These are important questions, and IIA commends the FCC for examining its prior conclusion about the equivalent functionality of fixed and mobile broadband services.[4]

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[1] *See* Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, *Fourteenth Broadband Deployment Report Notice of Inquiry*, FCC 18-119 (2018) (*NOI*). On August 17, 2018, the Wireline Competition Bureau extended the deadline for filing comments and replies. *See* In the Matter of Communications Marketplace Report; Inquiry Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, *Order*, DA 18-859 (Aug. 17, 2018).

[2] *Id.* at para. 11.

[3] *Id.*

[4] In its *2018 Broadband Deployment Report*, the FCC maintained its 2016 conclusion that mobile and fixed broadband services are not "functional substitutes." Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, *2018 Broadband Deployment Report*, 33 FCC Rcd 1660, para. 18 (2018).

Current information about consumer preferences shows that the FCC's earlier conclusion about the substitutability of fixed and mobile broadband services is now outdated. In June 2018, an independent market research firm CivicScience, Inc. conducted a detailed survey of consumers in the United States to provide greater insight into how consumers view the different options currently available for accessing the Internet. CivicScience presented its results in the research report, *Consumer Preferences for Internet Access and Online Activities Market Research Report*.[5] IIA built upon this market research in a July 2018 white paper that examines how consumer preferences and attitudes have evolved to the point where today's consumers consider fixed and mobile broadband service to be essentially the same thing.

The IIA white paper and the results of the CivicScience research show that:

> ***Distinctions between broadband delivery methods no longer matter to U.S. consumers***. The market research shows that almost as many consumers prefer to access the Internet through mobile as through cable modems – and more consumers prefer to access the Internet through their mobile devices than do those who prefer the fixed broadband means of fiber and digital subscriber line (DSL) service combined. And furthermore, 1 in 5 U.S. consumers expressly state that they have "no preference" for how they access the Internet. Fully 43% of respondents either prefer mobile access or express no preference as compared to 47% expressing a fixed broadband alternative preference, showing essential equivalence. ***As would be expected in a highly competitive market, these results show that consumers have many options and express no clear preference for how they access the Internet.***
>
> ***Consumers are willing to switch to mobile-only Internet access.*** Millions of consumers across all kinds of demographic groups have already done so – younger consumers, older consumers, white consumers, minority consumers, consumers living in cities and consumers living in rural areas. And contrary to the FCC's conclusion in January 2016, concerns about affordability are not the main reason consumers are reluctant to switch.
>
> ***A clear majority of consumers now use mobile devices for "bandwidth and data-intensive applications" like streaming multimedia content***. Over 57% of consumers use their mobile devices to watch news and sports, as well as stream movies and television shows from services like Netflix, Hulu, YouTube, and other content providers.
>
> ***Mobile devices now play an important role in completing homework assignments and applying for jobs.*** Nearly 1 in 2 U.S. households with children have used mobile devices to complete homework assignments in the past year. And 1 in 4 U.S. consumers have used mobile devices to apply for a job in the past year.

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[5] CivicScience, Inc., Consumer Preferences for Internet Access and Online Activities Market Research Report (Jun. 27, 2018) (*CivicScience Consumer Preferences Report*). In conducting its survey, CivicScience used a quota-based sampling methodology of a minimum of 10,000 online U.S. adult consumers – this ensures that the results are precisely representative of the U.S. population by demography and geography. The detailed results of the CivicScience survey are attached to the IIA white paper, *Evolving Preferences – Consumer Preferences Tilting Towards Mobile Broadband*.

These trends are common across different demographic groups of consumers – meaning rural and urban consumers, younger and older consumers, and consumers of different races share similar preferences and perform similar activities.

The *IIA Consumer Preferences White Paper* and the *CivicScience Consumer Preferences Report* show that, in mid-2018, consumers perceive and use mobile and fixed broadband services in essentially the same way. IIA believes that the FCC should account for the new reality of the marketplace and conclude that fixed and mobile broadband services are now functional substitutes. As a result, the FCC should update and modernize its approach to reporting to Congress on the deployment of advanced telecommunications capability.

Thank you for your consideration.

Respectfully submitted,

Rick Boucher, IIA Honorary Chair

Bruce Mehlman, IIA Co-Chair

Kim Keenan, IIA Co-Chair

Evolving Preferences

CONSUMER PREFERENCES TILTING TOWARDS MOBILE BROADBAND

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Table of Contents

I. Overview

The Internet Innovation Alliance (IIA) is publishing this white paper to help inform the Federal Communications Commission (FCC) and other policymakers about consumer preferences for accessing the Internet, as well as to provide helpful detail about the types of activities consumers pursue online.

The detailed information submitted with this white paper is the result of a comprehensive survey IIA commissioned in June of this year of some 10,000 U.S. consumers. The results of this survey show that consumer preferences have changed, and that consumers now see fixed and mobile broadband services as essentially the same. The results also show that consumers use mobile broadband services to perform bandwidth-intensive activities like streaming video and watching news and sports. Based on the details revealed through this extensive survey, the IIA calls upon the FCC to update and modernize its approach to reporting to Congress on the deployment of advanced telecommunications capability in the United States. Specifically, the IIA calls for the FCC to recognize that:

- Consumer preferences have changed in the highly competitive market for broadband services, and that today's consumers see mobile and fixed broadband services as "functional substitutes" for each other;
- Consumers are now using mobile services and devices in bandwidth-intensive ways like streaming video and watching news/sports, and that these consumer activities show that today's consumers view mobile and fixed broadband services as "functional substitutes" for each other;
- Consumers are using mobile devices for important functions like doing homework and applying for jobs like never before;
- These trends are common across different demographic groups of consumers – meaning rural and urban consumers, younger and older consumers, and consumers of different races share similar preferences and perform similar activities viewing fixed and mobile broadband as functional equivalents.

IIA believes that now is the right time for the FCC to update and modernize its approach to reporting to Congress on the deployment of advanced telecommunications capability. Because consumers perceive and use mobile and fixed broadband services in essentially the same way, the FCC should now consider mobile and fixed broadband services "functional substitutes" and report to Congress accordingly.

II. Executive Summary

The Internet Innovation Alliance (IIA) commissioned an independent market research survey to determine the preferences of consumers and identify the types of activities consumers engage in when they go online. A leading independent polling and market research firm, Civic Science, designed and conducted a comprehensive, statistically-valid survey of at least 10,0000 consumers in the United States in June 2018.[1] The results of the Civic Science Consumer Preference Survey show that:

Consumers express no clear preference for how they access the Internet.
Almost as many consumers prefer to access the Internet through mobile as through cable modems. In fact, more consumers prefer to access the Internet through their mobile devices than do those who prefer the fixed broadband means of fiber and digital subscriber line (DSL) service combined. And furthermore, 1 in 5 U.S. consumers expressly state that they have "no preference" for how they access the Internet. Fully 43% of all respondents report a preference for mobile access or report no preference as compared to 47% expressing a fixed broadband preference, demonstrating clearly that in the public view, there is essential equivalence between mobile and fixed alternatives.

Consumers are willing to switch to mobile-only Internet access.
Millions of consumers across all kinds of demographic groups have already done so – younger consumers, older consumers, white consumers, minority consumers, consumers living in cities and consumers living in rural areas. And contrary to the FCC's conclusion in January 2016, concerns about affordability are not the main reason consumers are reluctant to switch.

A clear majority of consumers now use mobile devices for "bandwidth and data-intensive applications" like streaming multimedia content – including watching news and sports, as well as streaming movies and television shows from services like Netflix, Hulu, YouTube, and so forth.

Mobile devices now play an important role in completing homework assignments and applying for jobs.
Nearly 1 in 2 U.S. households with children have used mobile devices to complete homework assignments in the past year. And 1 in 4 U.S. consumers have used mobile devices to apply for a job in the past year.

The results contained in the Civic Science Consumer Preferences Report show that the FCC should update and modernize its approach to reporting on the deployment of advanced telecommunications capability throughout the United States. In 2016, the FCC concluded that mobile broadband and fixed broadband are not "functional substitutes" for each other primarily because "American consumers do not treat the two services as functional substitutes." To arrive at that conclusion, the FCC considered usage information like the activities that consumers use fixed and mobile broadband services for, adoption figures, and service characteristics, among other factors. The FCC placed significant weight on its view that consumers who can purchase both services do so when they have the financial means. When the FCC published its *2016 Broadband Deployment Report*, it relied on data from 2015 and earlier. And in reaffirming its conclusion in its 2018 report, the FCC did not rely on any updated or new data – instead, the FCC continued to rely on data that is by now outdated. Because Civic Science surveyed consumers in June 2018, the Civic Science Consumer Preferences Report is based on the most up-to-date, current data available. As a result, the Civic Science Consumer Preferences Report, along with other data and research contained in this White Paper, shows that ***the FCC's considerations and conclusions from 2016 are now outdated and should be changed.***

[1] Civic Science, Consumer Preferences For Internet Access And Online Activities Market Research Report (Jun. 27, 2018) (Consumer Preferences Report or Civic Science Consumer Preferences Report). The report is attached in its entirety to this white paper.

III. Background

1. Regulatory

Each year, the Federal Communications Commission (FCC) is required to report to Congress on the deployment of "advanced telecommunications capability to All Americans."[2] In 2016, the FCC started including mobile broadband services in the definition of advanced telecommunications services, and began reporting on the progress of mobile broadband deployment in its report.[3] In examining the deployment of broadband services, the FCC concluded, over numerous objections, that fixed and mobile broadband services are not "functional substitutes" for one another.[4]

Earlier this year, the FCC issued its most recent *2018 Broadband Deployment Report*. In its report, the FCC modified its conclusion about mobile and fixed broadband services, finding that "[e]ach clearly provides capabilities that satisfy the statutory definition of advanced telecommunications capability."[5] In doing so, the FCC also reaffirmed its 2016 conclusion that mobile and fixed broadband services are not "functional substitutes."[6]

In its decision, the FCC continued to rely on the analysis spelled out in its January 2016 report to Congress. That analysis focused on three factors to support its determination that mobile and fixed broadband services are not "functional substitutes."[7] Specifically,

- The FCC found that mobile and fixed broadband services have distinct characteristics offered to consumers;

  In finding that mobile and fixed broadband services are not functional substitutes, the agency focused on "environmental factors" that affect mobile devices and prevent mobile services from achieving "the same kinds of consistent speeds" as fixed broadband services.[8] The FCC also concluded that a key characteristic of mobile devices – i.e., easy portability – prevented mobile from working as a functional substitute for fixed service. In this regard, the FCC pointed to the smaller "screens" of mobile devices as one factor determining their unsuitability to act as a functional substitute for fixed broadband services,[9] as well as its conclusion that "data-intensive activities such as telecommuting or the highest-quality multimedia experiences are generally inappropriate for mobile devices."[10]

[2] 47 U.S.C. § 1302(a). *See* Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, *2018 Broadband Deployment Report*, 33 FCC Rd 1660, para. 2 (2018) *(2018 Broadband Deployment Report)*.

[3] Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act, *2016 Broadband Deployment Report,* 31 FCC Rd 699, paras. 2, 20-24 (2016) *(2016 Broadband Deployment Report)*.

[4] *2016 Broadband Deployment Report* at para. 24.

[5] *2018 Broadband Deployment Report* at para. 18.

[6] *Id.; see also id.* at n. 39.

[7] *2016 Broadband Deployment Report* at para. 24. In its report, the FCC stated that fixed and mobile broadband "are not functional substitutes." *Id.* The FCC further stated that it based "this finding on the capabilities both services offer to consumers, the manner in which these services are marketed to and used by consumers, and evidence suggesting that consumers overwhelmingly purchase both services when they have the financial means." *Id.* (internal footnotes to other sections of the *2016 Broadband Deployment Report* omitted).

[8] *2016 Broadband Deployment Report* at para. 29.

[9] *Id.*

[10] *Id.*

- The FCC found that mobile and fixed broadband services are marketed, priced, and used in different ways;

  Besides looking at overall pricing information on a per-Gigabit (GB) basis, the FCC focused on the different "usage patterns" that it saw between mobile and fixed broadband services. Specifically, the FCC found that fixed broadband services are more suitable for "streaming video services," "[High Definition] video streaming," and "video conferencing."[11] The FCC noted that consumers use mobile devices to watch video, but it did not find the usage to be significant enough for mobile broadband service to be a functional substitute for fixed broadband service. In making its decision about the usage patterns for mobile video, the FCC relied on 2013 data.[12]

- The FCC found that low income consumers choose to use only mobile broadband because they cannot afford to buy both mobile and fixed broadband services.

  The FCC relied on an "[a]nalysis of consumers' purchasing habits" to support its conclusion that, as of January 2016, fixed and mobile broadband are not functional substitutes.[13] For this factor, the FCC concluded that ***"the decision to rely exclusively on mobile broadband service is frequently driven by financial necessity."***[14] The FCC reasoned that, if mobile were a substitute, then significant numbers of mobile broadband subscribers would drop their fixed broadband subscriptions to avoid paying for a redundant service. In making its decision, the FCC focused, in particular, on certain demographic groups, finding that "smartphone-only" consumers are disproportionately young, low income, and minority consumers.[15] The FCC did not establish a bright-line rule, but did express its view that mobile and fixed could be considered substitutes if a "significant number" of consumers were willing to switch.[16]

Two years after making this decision, the FCC decided to reassert its conclusion that mobile and fixed broadband services are not functional substitutes. The FCC did note that both mobile and fixed broadband could separately meet the statutory definition of advanced telecommunications services, but it unfortunately did not examine closely its 2016 determination or supplement its record with additional, more up-to-date data regarding how consumers view mobile and fixed broadband services. Instead, the FCC noted that "there are clear variations in ***consumer preferences and demands*** for fixed and mobile services."[17]

[11] *Id.* at para. 35.

[12] *Id.* at para. 36 (stating "Nielsen reports that in the third quarter of 2013, users spent 34 hours and 17 minutes per month on average using their mobile browser or apps and nearly six hours watching video on a mobile device.")

[13] *Id.* at para. 38.

[14] *Id.* at para. 39 (emphasis added).

[15] *Id.* (citing *PEW April 2015 Smartphone Report*) In April 2015, the PEW Research Center released a report on smartphone use in the United States. *See* PEW Research Center, *U.S. Smartphone Use in 2015* (Apr. 1, 2015) (*PEW April 2015 Smartphone Report*). The PEW Research Center based its report on surveys conducted in 2014. *See PEW April 2015 Smartphone Report* at 1. Citing the *PEW April 2015 Smartphone Report,* the FCC wrote that the "report also found that although some 13 percent of Americans with a household income of less than $30,000 per year are smartphone dependent, only one percent of Americans with an annual income of $75,000 or more rely solely on mobile broadband."

[16] *Id.* at para. 38.

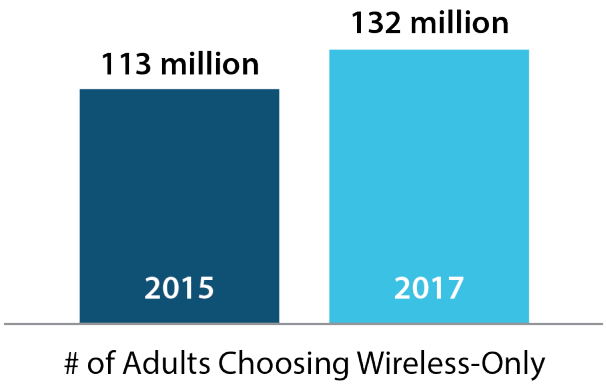
[17] *2018 Broadband Deployment Report* at para. 18 (relying on *2016 Broadband Deployment Report* at para. 24) (emphasis added).

2. Marketplace Developments

Consumer preferences and demands drive rapid, continuous innovation in the communications marketplace. As a result, service providers are forced to keep pace by competing on price, quality, features, and service functionality that consumers desire. Transformative change has swept the broadband marketplace in just a few years since the FCC first considered whether mobile broadband meets the statutory definition of advanced telecommunications service.

This phenomena is most prevalent and visible in consumer preferences for a highly mobile communications experience. Mobile devices are now ubiquitous. As the Supreme Court noted in a case decided at the end of June 2018, "[t]here are 396 million cell phone service accounts in the United States – for a Nation of 326 million people."[18]

132 million US Consumers Choose Wireless-Only Voice Service



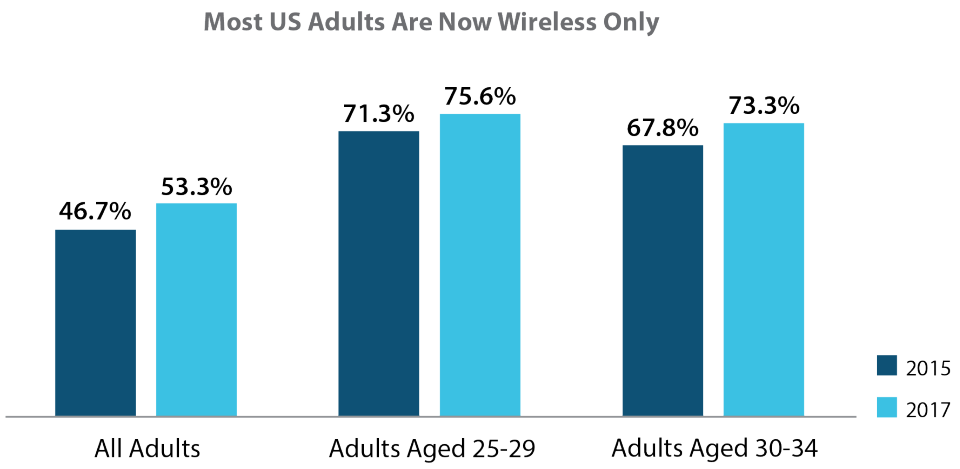
SOURCE: Centers for Disease Control and Prevention, *Wireless Substitution: Early Release of Estimates from the National Health Interview Survey, July – December 2017* (Jun. 2018); Centers for Disease Control and Prevention, *Wireless Substitution: Early Release of Estimates from the National Health Interview Survey, January – June 2015* (Dec. 2015).

Consumer preference for a mobile lifestyle has clearly manifested itself in the market for voice service. Reports from the Centers for Disease Control and Prevention (CDC) show that U.S. consumers overwhelmingly seek a wireless-only lifestyle and that wireless phones are fast replacing traditional landline voice telephones.

As shown in the chart below, between 2015 and 2017, ***nearly 20 million more U.S. consumers cut the cord and adopted a wireless-only lifestyle, representing an approximate 17% increase.*** While these figures refer specifically to voice service, IIA believes that this is a precursor to a broader systemic shift occurring in society and the communications marketplace, that now reflects similar changes occurring in the market for broadband services.

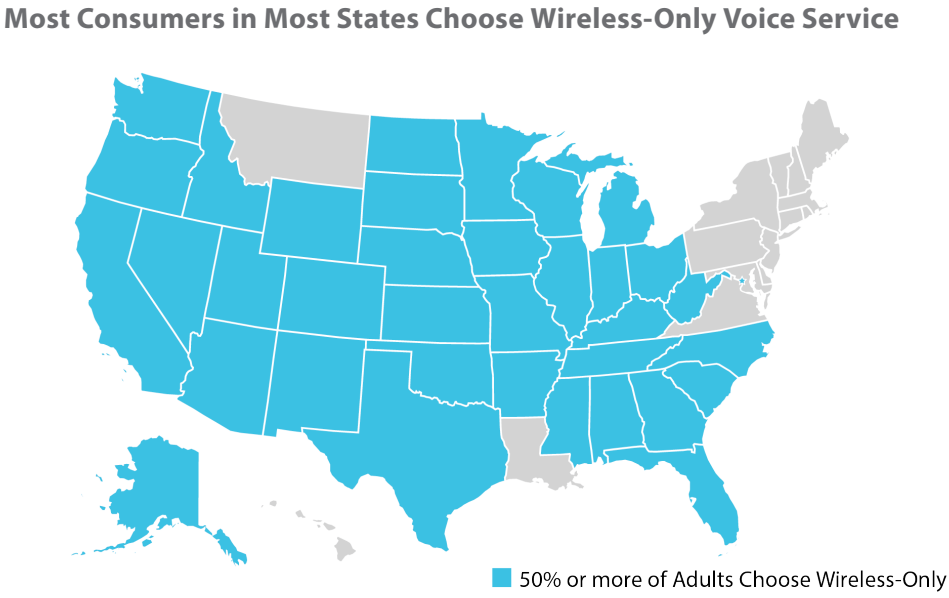
The wireless-only trend for voice service is even more prevalent among younger U.S. adult consumers. So while the majority of U.S. adults are choosing wireless-only, an even greater percentage of younger adults – those between the ages of 25 and 34 – have chosen a wireless-only lifestyle. The chart below demonstrates that, as December 2017, over 53% of all U.S. adults were wireless-only , but over 75% of adults between the ages of 25-29 and over 73% of adults between the ages of 30-34 have chosen a wireless-only lifestyle. These data represent a continuing and significant shift throughout the nation in consumer preferences since the FCC examined the mobile and fixed broadband deployment in its *2016 Broadband Deployment Report.* ***Consumers are now choosing a wireless-only lifestyle in overwhelming numbers.***

[18] *Carpenter v. United States,* No. 16-402, 585 U.S. (decided Jun. 22, 2018). In its *Annual Wireless Industry Survey* released in July 2018, CTIA reports that there were 400.2 million wireless subscriber connections in the U.S. as of 2017. *See* CTIA, *Annual Wireless Industry Survey* (Jul. 10, 2018).



SOURCE: Centers for Disease Control and Prevention, *Wireless Substitution: Early Release of Estimates from the National Health Interview Survey, July – December 2017* (Jun. 2018); Centers for Disease Control and Prevention, *Wireless Substitution: Early Release of Estimates from the National Health Interview Survey, January – June 2015* (Dec. 2015).

On a geographic level, the trend for more mobile service means that most adults in 33 states and the District of Columbia have chosen a wireless-only lifestyle. The choice for a ***wireless-only lifestyle is even more prevalent among households with children*** – in those households a majority are now wireless-only in 40 states and the District of Columbia.



SOURCE: Centers for Disease Control and Prevention, *Wireless Substitution: State-Level Estimates from the National Health Interview Survey* (Dec. 2017) (specifying that at least 50% of U.S. adults in 33 states and the District of Columbia have chosen a wireless-only lifestyle as of 2016).

Industry data on infrastructure deployment and consumer service choices confirm the wireless trends reported by the CDC. Since the onset of the 21st Century, traditional residential wired voice lines dropped by approximately 87%.[19] During the same time frame, wireless voice connections more than tripled, from 101 million wireless connections in 2000 to 356 million in 2018.[20]

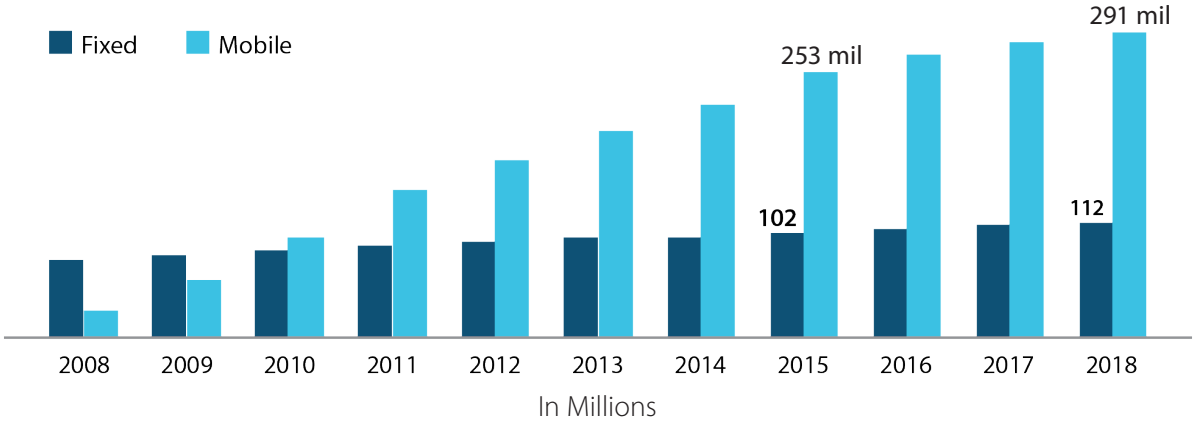
[19] US Telecom, *US Telecom Industry Metrics and Trends 2018*, 4 (Mar. 1, 2018) *(US Telecom Industry Metrics and Trends 2018).*

[20] *Id.* at 6.

Industry statistics reveal that, as of 2018, 89% of U.S. households shifted to wireless and Internet Protocol voice service (VoIP) – a sharp increase from the 81% reported at the time the FCC was gathering information for its *2016 Broadband Deployment Report*.

Consumers now expect a mobile experience, and not surprisingly, ***a massive mobile broadband revolution has taken root during the past decade to match consumer expectations.*** As shown below, there are now approximately 291 million mobile broadband connections in the U.S., in comparison to roughly 112 million fixed broadband connections in service today. Moreover, the chart below highlights the explosive growth in mobile broadband connections among U.S. consumers in the past ten years – ***soaring from 27 million connections in 2008 to about 291 million connections in 2018.***

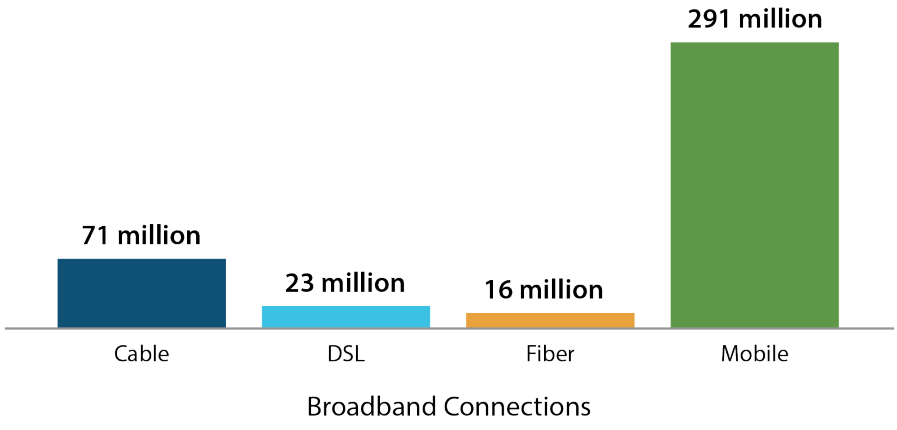
Explosion of Mobile Broadband Connections, 2008 - 2018



SOURCE: USTelecom, *USTelecom Industry Metrics and Trends 2018,* 16 (Mar. 1, 2018).

This consumer trend toward wireless now means that mobile broadband connections greatly outnumber fixed broadband connections. ***In 2018, mobile broadband connections outnumbered the largest category of fixed broadband service (cable) by more than a factor of four.*** High consumer demand for a mobile lifestyle continues to drive innovation and growth in the communications sector.

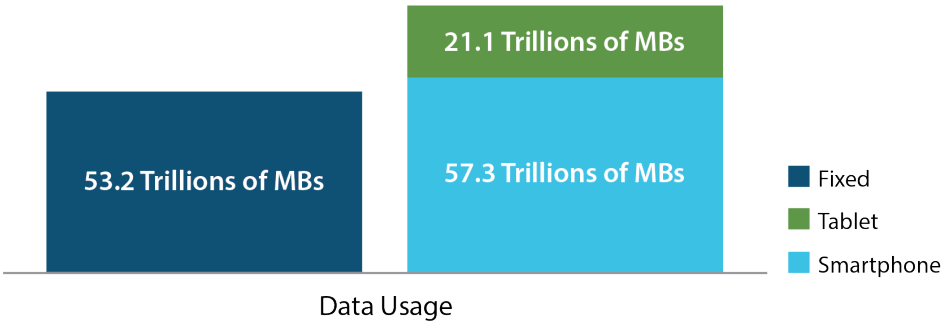
Mobile Broadband Outnumbers Fixed Broadband



SOURCE: USTelecom, *USTelecom Industry Metrics and Trends 2018,* 16 (Mar. 1, 2018).

How consumers use their mobile devices has changed considerably in recent years. Advances in manufacturing have delivered new devices that have spurred greater change in consumer preferences and habits. For example, consumers are favoring smartphones and tablets over traditional computers and television. Smartphone ownership has surged in recent years. As of 2017, ***approximately 77% of U.S. consumers own a smartphone*** – more than double the smartphone ownership in 2011.[21] And 2018 is the year smartphone data use will surpass fixed broadband data use – ***independent studies project that smartphone data traffic will exceed fixed broadband data traffic by nearly 8% in 2018.***[22] And as shown in the chart below, data usage for smartphones and tablets combined in 2018 is expected to be nearly 50% greater than fixed broadband data usage. To keep pace with consumer demand for more mobile broadband connections, service providers have upgraded their networks so that mobile download speeds in the U.S. now average 23.5 MB – a jump of over 14% in just one year.[23] Not surprisingly, the capabilities of mobile devices have soared in recent years to keep up with consumer demands for new uses.[24] All of these facts show how U.S. consumers in 2018 are eager for mobile broadband and a wireless-only lifestyle.

Mobile Broadband Data Usage Exceeds Fixed Broadband Data Usage



SOURCE: Axios, *Mobile Data Consumption Will Soon Surpass Fixed Broadband* (Jun. 16, 2017) (citing PriceWaterhouseCoopers Media and Entertainment Outlook).

[21] CTIA Industry Statistics, *Smartphone Ownership.* In its Annual Wireless Survey, CTIA reports 273 million smartphones in active use, which is more than five times the 50 million smartphones reported to be in use in 2009. *See CTIA Annual Wireless Survey* (rel. Jul. 10, 2018).

[22] Axios, *Mobile Data Consumption Will Soon Surpass Fixed Broadband* (Jun. 16, 2017) (citing PriceWaterhouseCoopers Media and Entertainment Outlook). In citing the PWC study, Axios notes that smartphone data usage is projected to top 57.3 trillions of megabytes worldwide in 2018, compared to 53.2 trillions of megabytes in data usage by fixed broadband services. Tablet data usage is projected to exceed 21 trillions of megabytes in 2018.

[23] *Id.*

[24] The Wall Street Journal, *Your Smartphone is the Best Computer You Own* (May 23, 2018); ComputerWorld, *With Smartphones Like These, Why Do We Need Laptops?* (Dec. 9, 2017).

3. Consumer Preferences For Internet Access Today

The Internet Innovation Alliance (IIA) commissioned an extensive independent study of U.S. consumer preferences and behavior to better understand the current landscape of the nation's on-line marketplace. We asked market research firm Civic Science to develop a web-based consumer survey consisting of four key questions.

Civic Science is an online market research and data analytics firm that runs highly accurate, micro-survey polling applications embedded within a website's native content experience. The company uses a quota-based sampling methodology, which ensures that respondent groups are precisely representative of the U.S. population by demography and geography. Civic Science delivered its survey to "a random quota-based sample of a minimum of 10,000 online U.S. adult respondents aged 18 or older."[25] The Civic Science report notes that respondents participated voluntarily and for no financial or other extrinsic reward, which "significantly reduces" potential bias in the polling results.

Civic Science crafted its survey to shed greater insight on the question of how consumers view the different options currently available for accessing the Internet. Civic Science asked direct questions about how consumers prefer to access the Internet and the activities for which consumers ***prefer*** to use their mobile devices. Civic Science also asked about the reasons consumers with home Internet access choose not to switch to a mobile-only service plan. The specific four questions Civic Science asked were:

1. How do you prefer to access the Internet?

> Consumers could respond that they prefer to access the Internet through the following means: cable modem, fiber optic service, smartphone/tablet (mobile plan), DSL, satellite, dial-up, or other. Consumers could also respond by stating "I don't care how I access the Internet."

2. In the past year, have you or anyone in your household used a mobile device for any of the following activities? (Please select all that apply.)

> Consumers could respond with the following answers: reading and/or watching news or sports, streaming videos or music, applying to jobs, or completing homework assignments. Consumers could also respond that they don't own a mobile device, or that they own a mobile device but don't do any of these activities.

3. In the past year, have you or anyone in your household used a mobile device for any of the following activities? (Please select all that apply.)

> Consumers could respond with the following answers: using mapping services, checking/posting on social media, buying or selling items, or playing games online. Consumers could also respond that they don't own a mobile device, or that they own a mobile device but don't do any of these activities.

4. If you currently subscribe to a home Internet Service Provider, which of the following explains why you haven't switched to ONLY using a mobile plan (such as using the Internet from your cell phone provider)? (Select all that apply.)

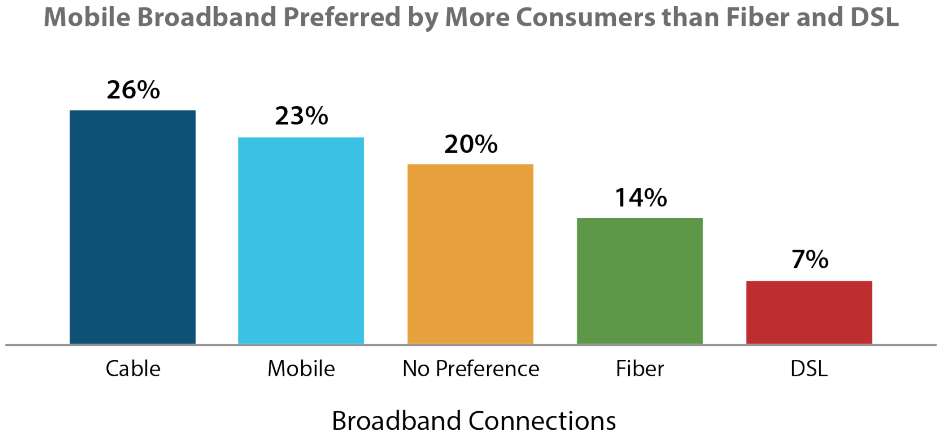
> Consumers could respond with the following answers: speed, affordability, reliability, ease/comfort, availability, security, or other. Consumers could also respond that they reason they have not switched to a mobile-only plan is because "My home internet service is connected to my phone and cable bill." And consumers could respond by stating that they already switched and only use a mobile plan, or that they are considering switching to mobile-only.

[25] Consumer Preferences Market Research Report at 5.

Based on its extensive experience and background conducting market research like this, Civic Science can provide detailed demographic information about consumer preferences based on the survey responses. In its report, Civic Science presented its findings as summary "topline results," but also detailed results based on age, residential area (urban, suburban, rural, and other), race, and income. These market research results provide accurate information that can be used to assess consumer preferences at the nation-wide level.

3A. Distinctions Don't Matter Anymore – Consumers See Mobile and Fixed Broadband as the Same

The market research report shows that the distinction between mobile and fixed broadband services is rapidly disappearing in the minds of millions of consumers. Civic Science focused its research on asking consumers about their preferences, and so the report provides an excellent snapshot into the minds of consumers in 2018. At a high level, the market research shows that ***most consumers express no clear preference for either mobile or fixed broadband service.*** In fact, consumers prefer mobile over most types of fixed broadband services – the only exception is cable modem customers who comprise the clear majority of broadband customers at this time (and even then, only 26% of consumers prefer access through their cable modems – slightly more than the 23% of consumers who prefer access through mobile).



SOURCE: Civic Science Consumer Preferences Market Research Report, Question 1 (examining only the results for broadband Internet access).

This conclusion holds up under a closer analysis of the detailed market research about consumer preferences across different demographic groups. For example,

- U.S. consumers between the ages of 18 and 44 generally prefer to access the Internet through mobile service (roughly 29% - 34%). Although older consumers show a slight-to-moderate preference for cable modem service, a clear majority still expresses no preference for any one type of Internet access.
- An examination across racial groups shows that a majority in any race expresses no clear preference (i.e., 50%+) for a specific type of Internet access. Whites express a slight preference for cable modem service (31%), while Hispanics and Blacks state that they prefer to access the Internet through mobile service (39% and 30% respectively).

- An examination across income levels also shows that ***consumers of all income levels express no clear preference for any one type of Internet access.*** Almost as many low-income consumers prefer cable modem service (23%) as they do mobile service (25%).
- Fully 43% of all respondents report a preference for mobile access or report no preference as compared to 47% expressing a fixed broadband preference, showing essential equivalence in the public view between mobile and fixed alternatives.

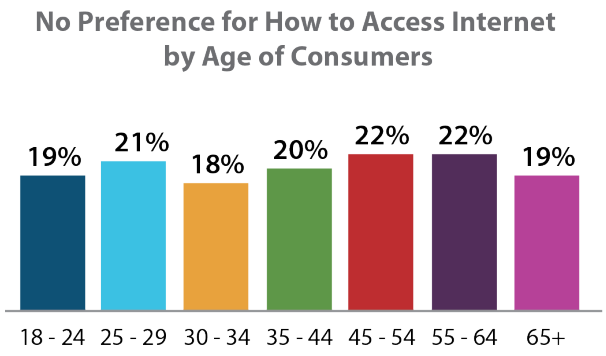
In its *2016 Broadband Deployment Report*, the FCC concluded that "American consumers simply do not treat the two services as functional substitutes."[26] If, as the FCC concluded, fixed broadband service provided an across-the-board superior access, then the market research would show the majority of consumers expressing a clear preference for a type of fixed broadband access. But the topline results and the more detailed demographics breakdowns show that this is not the case. ***As in any competitive marketplace, large groups of consumers have different preferences, but no one means of broadband access clearly dominates the perceptions and choices of consumers.***

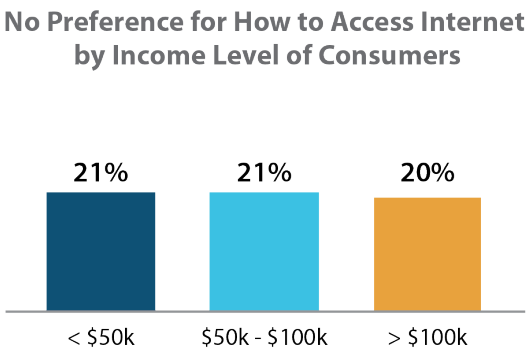
Policymakers should take note of the market research finding that ***many consumers expressly state that they have no preference for how they access the Internet.*** As highlighted above, ***20% of consumers say they have no preference for how they access the Internet.*** In fact, more consumers expressed no specific preference for how they access the Internet than those who prefer fiber optic or DSL service combined. And nearly as many consumers express no preference for how they access the Internet as those who prefer to use cable modem service. ***This demonstrates that "significant numbers"[27] of U.S. consumers now see mobile and fixed broadband services as "functional substitutes."***

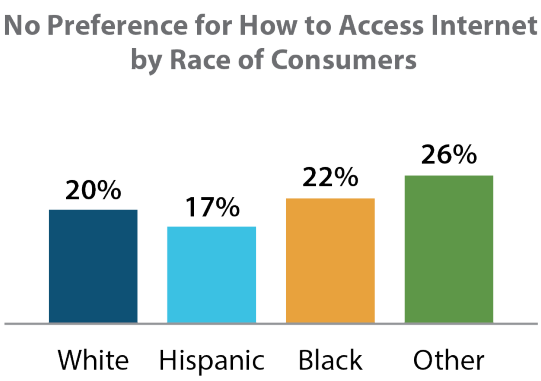
This trend toward having no preference is consistent across ages, races, residential areas, and income levels. It means that younger consumers, minorities, and low-income consumers – as well as older consumers, white consumers, and middle-to-high income consumers – express no preference for how they access the Internet. In other words, ***millions of consumers are increasingly perceiving mobile and fixed broadband service as precisely the same thing.***

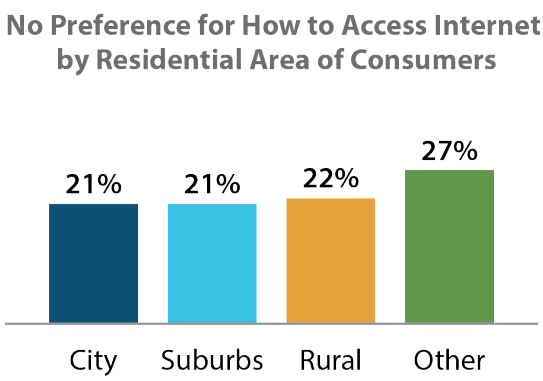
[26] *2016 Broadband Deployment Report* at para. 39.

[27] *2016 Broadband Deployment Report* at para. 38 (concluding that, if mobile were a substitute for fixed broadband, "significant numbers" of consumers would choose mobile service over fixed).









SOURCE: Civic Science Consumer Preferences Market Research Report, Question 1.

Such market research findings are important in light of the FCC's finding in its *2016 Broadband Deployment Report* that low income consumers are smartphone-dependent given their limited financial means. Today, ***nearly the same percentage of low income consumers as high-income consumers express no preference for how they access the Internet – 21% compared to 20%.***

Consumers between the ages of 25 and 64 all respond that they have no preference. This trend for no preference for how to access the Internet is consistent across age groups – precisely the same percentage of younger consumers (age 18-24) as older consumers (age 65+) expressed no preference for how they access the Internet. Similarly, about the same percentage of minority consumers as white consumers express no preference – 20% for White consumers, 17% for Hispanic consumers, and 22% for Black consumers. Rural consumers express no preference at 22% – slightly higher than consumers living in cities and the suburbs. ***These market research results show that consumers are now expressing "no preference" for how they access the Internet because they see fixed and mobile broadband as the same thing.***

The FCC's *2016 Broadband Deployment Report* contains findings based on facts that are no longer accurate. Given the availability of this new data, the agency should take action to reverse its outdated conclusion that mobile and fixed broadband services are not functional substitutes.

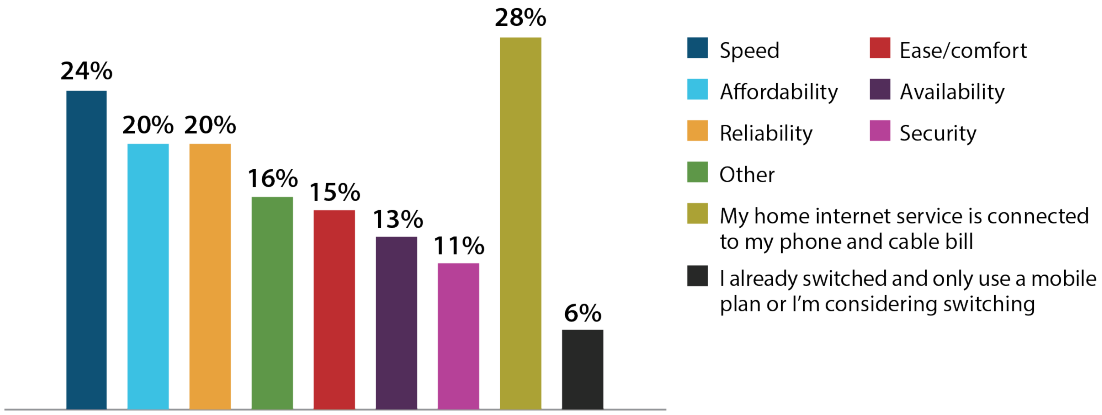
3B. Consumers Are Willing to Switch to Mobile-Only Internet Access

In its *2016 Broadband Deployment Report,* the FCC raised concerns about the quality, speed, and reliability of mobile broadband connections before concluding that, "[i]f mobile were a substitute for fixed broadband, then significant numbers of mobile broadband subscribers could be expected to drop their fixed broadband subscriptions to avoid the substantial cost of purchasing a redundant service.[28] The FCC also identified affordability as the main reason consumers – particularly younger consumers, minorities, and those of limited financial means – do not switch from fixed to mobile broadband service.[29] The FCC concluded that consumer decisions "to rely exclusively on mobile broadband service is frequently driven by financial necessity, rather than the view that fixed and mobile broadband are adequate substitutes for one another."[30]

The Civic Science Consumer Preferences Report examined the reasons consumers have not switched to a mobile-only broadband service for accessing the Internet. Specifically, Civic Science surveyed consumers with home Internet access to better understand why consumers have not switched to mobile-only usage. Civic Science made inquiries into affordability concerns. Consistency between the FCC's 2016 conclusions and market research would reveal that affordability is the main reason consumers (especially low-income consumers) are not switching to mobile-only service plans. Yet, the Consumer Preferences Report reveals that ***consumers, in fact, are willing to switch to mobile-only Internet access.*** Although consumers express some concerns for dropping their home Internet service to go mobile-only, none of the concerns garner a clear majority (50%+) as the reason for the reluctance to switch.

Question 4 (Reluctance to Switch to Mobile Plans) – Topline Results

"If you currently subscribe to a home internet service provider, **which of the following explains why you haven't switched to ONLY using a mobile plan** (such as using the internet from your cell phone provider, AT&T, Verizon, T-Mobile etc.)?" (Select all that apply.)



SOURCE: Civic Science Consumer Preferences Market Research Report, Question 4.

[28] In its *2016 Broadband Deployment Report,* the FCC limited its analysis to mobile broadband subscribers who also subscribed to fixed broadband service, and concluded that, if the services were "functional substitutes," the subscriber would drop the fixed broadband service. *2016 Broadband Deployment Report* at para. 38. But the FCC did not examine consumers who forego fixed broadband service in favor of mobile at the start. As noted in the broadband connections statistics (see chart EXPLOSION OF MOBILE BROADBAND CONNECTIONS, 2008 - 2018), in 2018 there were over 2.5 times as many mobile broadband connections (291 million) in the U.S. as fixed broadband connections (112 million), which shows that many U.S. consumers are choosing mobile to the exclusion of fixed broadband service.

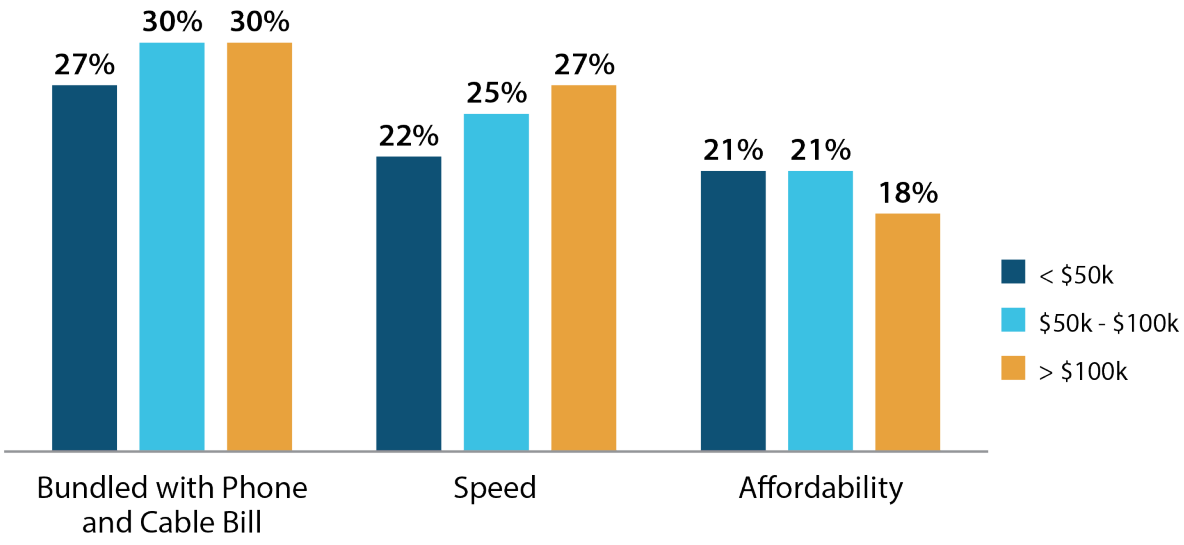
[29] *2016 Broadband Deployment Report* at para. 38.

[30] *2016 Broadband Deployment Report* at para. 39 (citing *PEW April 2015 Smartphone Report*).

As shown in the topline results above, the main reasons consumers do not switch to mobile-only broadband service are (1) their home Internet is bundled with their phone and cable bill; and (2) concerns over the speed of mobile-only broadband access. In the topline results, affordability and reliability are both listed as the third reason consumers are reluctant to switch.

An examination of the detailed demographic data casts more doubt on the FCC's prior conclusion that relying on mobile broadband service "is frequently driven by financial necessity." The FCC specifically pointed to financial necessity as the reason low-income consumers, minorities, and younger consumers rely on mobile broadband. But the market research report shows that low-income, middle-income, and even high-income consumers are concerned about affordability at approximately the same levels. ***As shown in the chart below, no meaningful difference exists between the views of consumers at any income level.*** Low-income consumers state that the main reasons they do not switch to mobile-only broadband are the concerns over speed and that their home Internet service is already bundled with their phone and cable bill (and thus, there is not a reason for them to switch). ***Middle-to-high income consumers cite the same reasons as low-income consumers and in comparable numbers.*** Similar views are expressed among consumers of all ages, racial groups, and residential areas.[31] When viewed in conjunction with the consumer preferences responses, the market research results demonstrate that consumers pick mobile-only access because they prefer a mobile-only lifestyle, not because they have limited choices due to affordability or service configuration concerns.

Top Reasons Consumers Are Reluctant to Switch to Mobile-Only Broadband Service By Income Level of Consumers

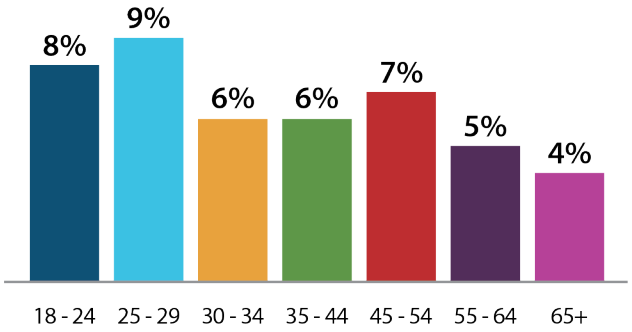


SOURCE: Civic Science Consumer Preferences Market Research Report, Question 4.

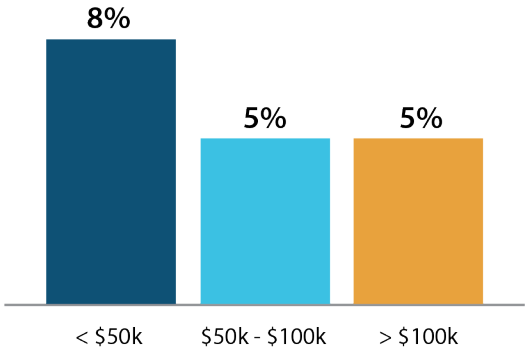
[31] *See* Civic Science Consumer Preferences Market Research Report, Question 4. Younger consumers generally cite concerns over speed as the primary reason they do not switch to mobile-only broadband service, while older consumers primarily point to how their home Internet service is connected to their phone and cable bill.

The more detailed results of the Consumer Preferences Report show that consumers across different demographic groups have already switched to mobile-only broadband access at comparable levels. Roughly the same percentage of Blacks (6%) as Whites (5%) have already switched to mobile-only broadband. Consumers between the ages of 18 and 54 have similar responses ranging from 6% to 9%, and even 4% of consumers age 65 or older respond that they have already switched. Precisely the same number of middle income consumers (5%) and high-income consumers (5%) have already switched, and these levels are not substantially different from the number of low income consumers (8%) who have switched. And precisely the same percentage of rural consumers as suburban consumers responded that they have already switched to mobile broadband or are seriously considering doing so. Such results contradict the FCC's January 2016 conclusion that certain groups of consumers access the Internet through mobile devices because of their limited options.

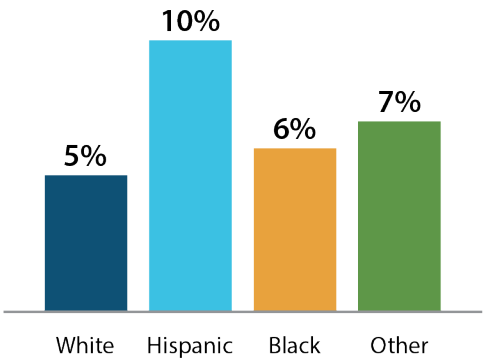
Already Switched to Mobile-Only Broadband by Age of Consumers



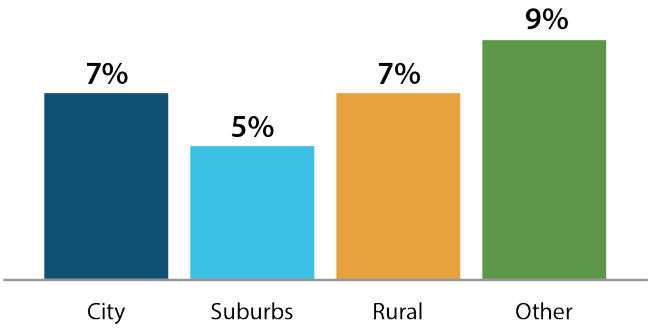
Already Switched to Mobile-Only Broadband by Income Level



Already Switched to Mobile-Only Broadband by Race of Consumers



Already Switched to Mobile-Only Broadband by Residential Area of Consumers



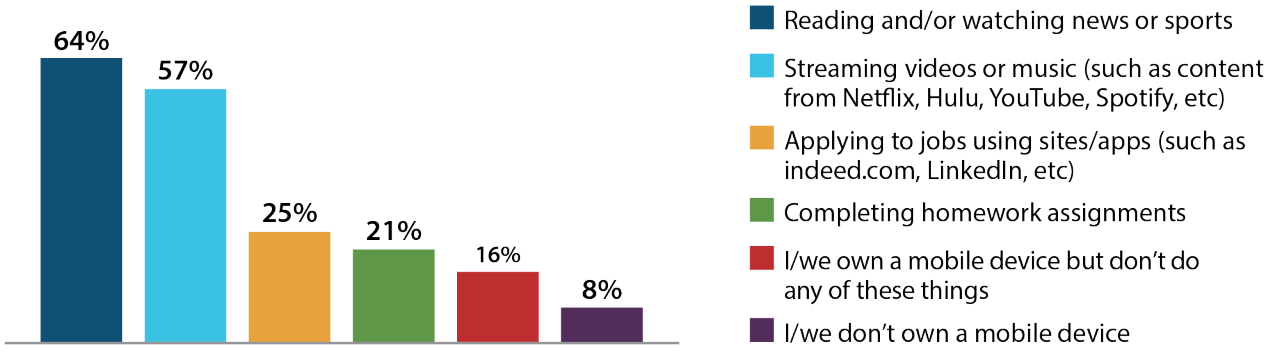
SOURCE: Civic Science Consumer Preferences Market Research Report, Question 4.

4. Consumer Activities With Mobile Broadband Service

In conducting its survey, Civic Science also sought information regarding the types of online activities associated with consumer mobile device use. Not only do the results show that mobile broadband has transformed the way consumers live, work, and play, but they show that "significant numbers" of consumers are using mobile devices for activities that were once the exclusive purview of fixed broadband services. As shown in the topline results for Question 2 below, ***a clear majority of consumers use mobile devices for "bandwidth and data-intensive applications" like streaming multimedia content*** – including watching news and sports, as well as streaming movies and television shows from services like Netflix, Hulu, Youtube, and so forth. These survey results show that ***consumers now see mobile broadband networks as having "the capacity" and "consistency of service" to support bandwidth intensive uses like video streaming, online gaming, and video conferencing.***

The market research report corroborates other research that shows consumers are choosing to use their mobile devices for activities that were once dominated by personal computers and larger-screen televisions. Recent reports show that nearly 50% of smartphone owners in the U.S. watch streaming video on their phones.[32]

"In the past year, have you or anyone in your household used a mobile device for any of the following activities?" (Select all that apply.)

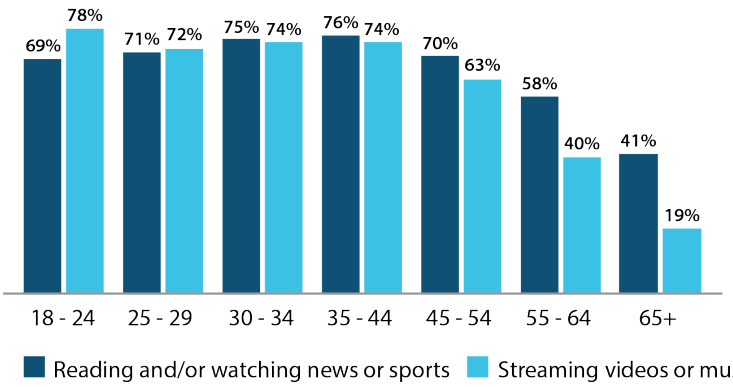


SOURCE: Civic Science Consumer Preferences Market Research Report, Question 2.

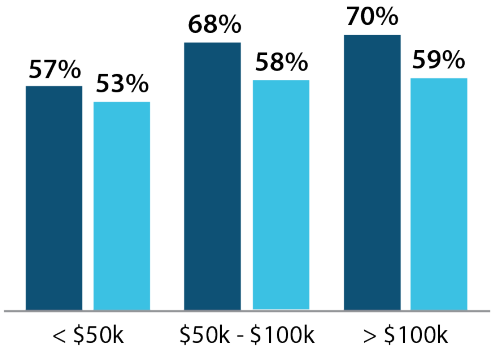
Moreover, consumers across all demographic groups use their mobile devices for bandwidth-intensive activities like streaming videos or watching news and sports. As shown in the chart below, a substantial majority of consumers aged 54 and younger (63% to 78%) use their mobile devices for multimedia applications such as reading or watching news/sports and streaming video and music. In fact, these bandwidth-intensive uses for mobile devices occur across different racial groups (White, Hispanic, and Black), different residential areas, and different income levels.

[32] Park Associates, *Market Snapshot: Smartphones and Mobile Services* (Jun. 2018). In its market research report, Park Associates concludes that "[n]early half of all smartphone owners in U.S. broadband homes stream video on their devices."; *see also* PEW Research Center, *More Americans using smartphones for getting directions, streaming TV* (Jan. 2016).

Mobile Devices Used for Multi-Media Applications By Age of Consumers

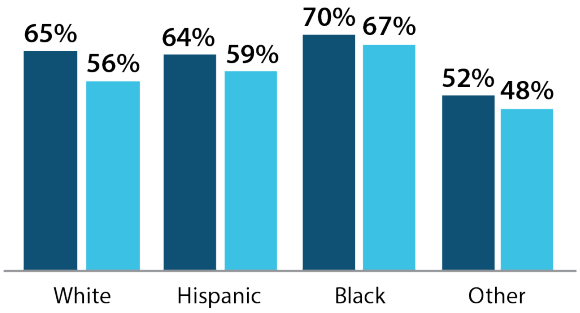


Mobile Devices Used for Multi-Media Applications By Income Level

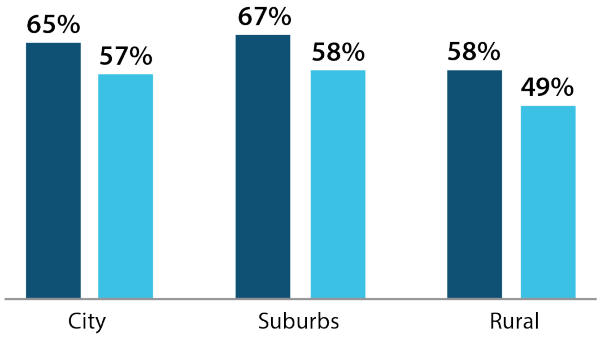


Reading and/or watching news or sports Streaming videos or music

Mobile Devices Used for Multi-Media Applications By Race of Consumers



Mobile Devices Used for Multi-Media Applications By Residential Area

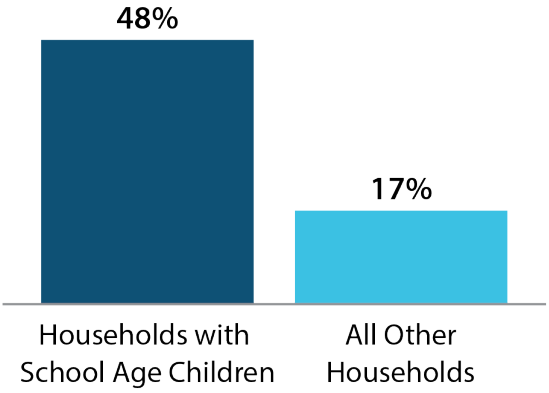


Reading and/or watching news or sports Streaming videos or music

SOURCE: Civic Science Consumer Preferences Market Research Report, Question 2.

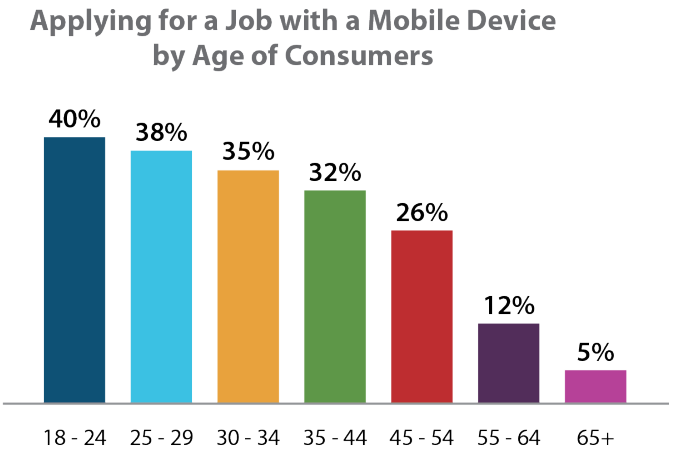
The Civic Science Consumer Preferences Report also shows how mobile devices now have a prominent role in American education. According to the topline results, 21% of consumers responded that either they have or someone in their household has used a mobile device to complete homework assignments in the past year. But the results are even more significant as it relates to households with school age children. As shown below, ***nearly half of all U.S. households with school age children have relied on mobile devices to complete homework assignments in the past year.*** Mobile devices are also being used heavily by adults age 18-24 (roughly college age consumers) – 44% of consumers in this younger age group use mobile devices to complete homework assignments.

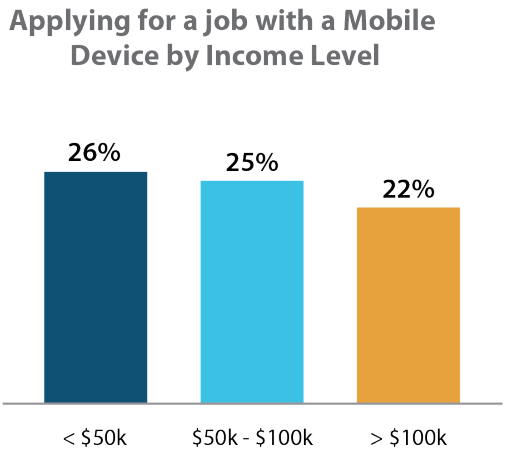
Homework Completed on Mobile Devices

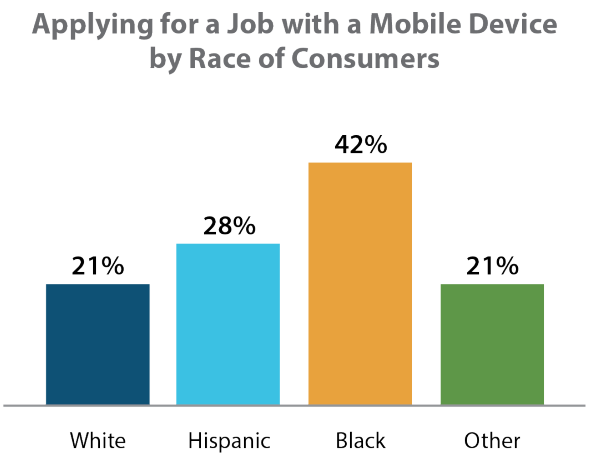


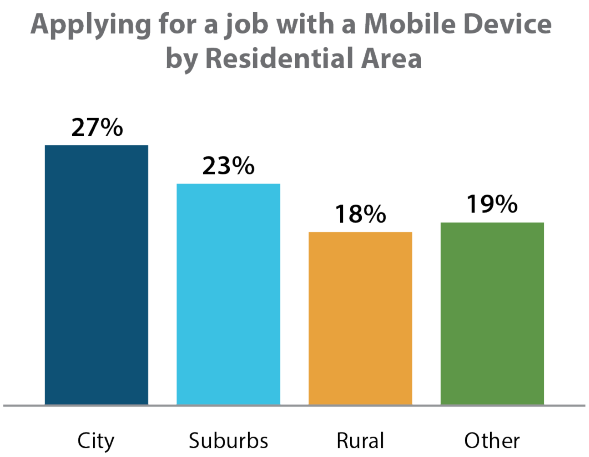
SOURCE: Civic Science Consumer Preferences Market Research Report, Question 2.

Mobile devices are also being enlisted by American consumers for employment searches in the nation's job market. The topline results of the Consumer Preferences Report show that fully ***1 in 4 consumers have used mobile devices to apply for a job in the past year.*** The results are even more significant when the examination is focused on growing demographic groups, such as younger consumers and Black consumers. As shown in the chart below, ***40% of adults between the ages of 18-24 have used a mobile device in the past year to apply for a job.*** The research also shows that significant numbers of U.S. consumers across all age groups and all income levels have used mobile devices to apply for jobs. For example, about 26% of consumers with annual income of less than $50,000 have used a mobile device to apply for a job in the past year, but even ***22% of consumers with annual income of more than $100,000*** have done so, as well. And while consumers living in cities could reasonably be expected to use mobile devices in this way, nearly 1 in 5 consumers living in rural areas – 18% – applied for a job using a mobile device.









SOURCE: Civic Science Consumer Preferences Market Research Report, Question 2.

IV. Conclusion

The Civic Science Consumer Preferences Market Research Report shows that consumer online preferences have evolved in recent years as a growing number ***express no clear preference for how they access the Internet.*** Almost as many consumers prefer to access the Internet through mobile as through cable modems, and fully 1 in 5 U.S. consumers expressly state that they have "no preference" for how they access the Internet. Fully 43% of all respondents reported a preference for mobile access or report no preference as compared to 47% expressing a fixed broadband preference, showing essential equivalance in the public mind among mobile and fixed alternatives. Furthermore, the Consumer Preferences Market Research Report shows that ***consumers are willing to switch to mobile-only Internet access,*** and that millions of consumers across all kinds of demographic groups have already done so.

The Consumer Preferences Market Research Report also shows that ***a clear majority of consumers now use mobile devices for "bandwidth and data-intensive applications" like streaming multimedia content*** – including watching news and sports, as well as streaming movies and television shows from services like Netflix, Hulu, YouTube, and so forth. ***Mobile devices are now taking center stage in helping U.S. consumers complete homework assignments and apply for jobs.*** Nearly 1 in 2 U.S. households with children have used mobile devices to complete homework assignments in the past year. And 1 in 4 U.S. consumers have used mobile devices to apply for a job in the past year.

IIA believes that the results contained in the Civic Science Consumer Preferences Report provides the FCC with the updated data necessary to take a fresh look to update, modernize, and acknowledge the essential equivalence of mobile broadband access to fixed access in its approach to reporting on the deployment of fixed and mobile advanced telecommunications capability throughout the United States.

Consumer Preferences for Internet Access and Online Activities Market Research Report

Commissioned by the Internet Innovation Alliance

June 27, 2018

TABLE OF CONTENTS

I-PROJECT BACKGROUND AND METHODOLOGY OVERVIEW

Introduction and Project Objectives

CivicScience was enlisted by the Internet Innovation Alliance (IIA) in May of 2018 to conduct an objective, large-scale study of U.S. consumers and their online behaviors, means of Internet access, the array of activities performed on their mobile device, and reasons behind their willingness to switch (or not) to mobile-only web access. CivicScience designed a questionnaire and sampling approach to achieve a high-confidence, representative view of the online U.S. adult population, with sufficient sample sizes to ensure statistically-significant Cross-tabulation by key demographic, geographic, and psychographic respondent attributes. Data contained in this report reflect consumer responses for the period of May 15 through June 10, 2018.

Summary Findings

An increasing number of Americans are relying primarily on their smartphones or other devices to access the Internet and using web-enabled mobile devices to access a broad number and type of activities, services, and overall information. As such, the activities they are performing on those devices, their expectations for performance and affordability, and their motivations for mobile Internet usage are increasingly similar to those of wired broadband Internet usage. While different segments of U.S. consumers prefer accessing the Internet in different ways, 1 in 5 “don’t care” how they access the web, so long as their other needs and values (speed, reliability, etc.) are met.

The blurring distinction between mobile and wired broadband Internet usage is particularly prevalent among the younger and fast-growing segments of the U.S. population, as well as lower income households. For consumers below the age of 55, less than half consistently report preferring to access the Internet through wired technology like cable, fiber, or DSL.

Over 30% of GenZ and Millennials prefer to access the web via mobile phone, as do 30% of Blacks and 39% of Hispanics. These demographic segments are also regularly using their mobile phones for a broader array of activities, from mapping services and social media, to homework assignments and job searching.

Approximately 6% of consumers report that they have already switched to mobile-only Internet access, or that they are considering switching. At this time, the main reasons consumers report not switching to mobile-only are that their home Internet service is bundled with phone and cable or that they have concerns about the speed of mobile-only Internet access. Concerns about speed primarily explain why consumers between the ages of 18 and 44 have not

switched to mobile-only Internet access. Although bundled Internet service helps explain why many White and Black households have not switched to mobile-only service (31% and 27% respectively), speed is the main reason Hispanic households currently avoid switching, and is a close second explanation for Black households (26%).

About CivicScience

CivicScience is a polling and market research company, founded in 2007 and based in Pittsburgh, Pennsylvania. The company combines a proven web-based survey technique to achieve large, representative samples of the U.S. population, with a proprietary database technology to perform sophisticated computations and insight discovery within the company's large respondent dataset.

CivicScience provides syndicated and custom data, software, and related services to an array of private sector and non-profit customers, across numerous industries and fields of science. CivicScience is expressly non-partisan and otherwise unaffiliated with any organizations or political entities which would influence research design, analysis, or recommendations.

About the Methodology

CivicScience administers a daily syndicated and custom 'omnibus' tracking survey, delivered to respondents in small increments over a large and diverse network of 1st-party and 3rd-party web and mobile applications. Individual sessions are brief, convenient, and engaging for the respondents – as compared to traditional, long-form telephone and online panel surveys. As a result, CivicScience overcomes declining response rates, which have plagued traditional survey methodologies in recent years, particularly among notoriously-hard-to-reach subpopulations like Millennials and minorities.

CivicScience respondents participate voluntarily, in order to see results and/or to voice their opinion, with no financial or other extrinsic reward. This voluntary, non-compensated participation significantly reduces known respondent biases associated with reward-based panels or paid survey modes.

Although respondents only answer a small number of randomized questions in a given session, CivicScience attaches subsequent responses to a unique, anonymous digital identifier to track respondents longitudinally, build respondent profiles, and enable Cross-tabulation. All respondent attributes, including demographics, are directly reported via survey responses, with the exception of geo-location, which is ascertained via Internet Protocol (IP) Address look-up.

(A more detailed explanation of CivicScience's methodology, including links to related white papers, independent assessment, and scientific references can be accessed here).

About This Study

To achieve the project objectives, CivicScience designed a four-question (*) survey delivered in one-question increments to a random quota-based sample of a minimum of 10,000 online U.S. adult respondents aged 18 and older. Quotas were established to build a respondent population matched precisely to the full U.S. population based on 2010 U.S. Census statistics for age, gender, and U.S. region. For the key demographic subpopulations (**/***) analyzed in this report, CivicScience performed basic and minimal reweighting to ensure precise alignment with Census norms. All questions and samples produced a margin of error of less than +/- 1%.

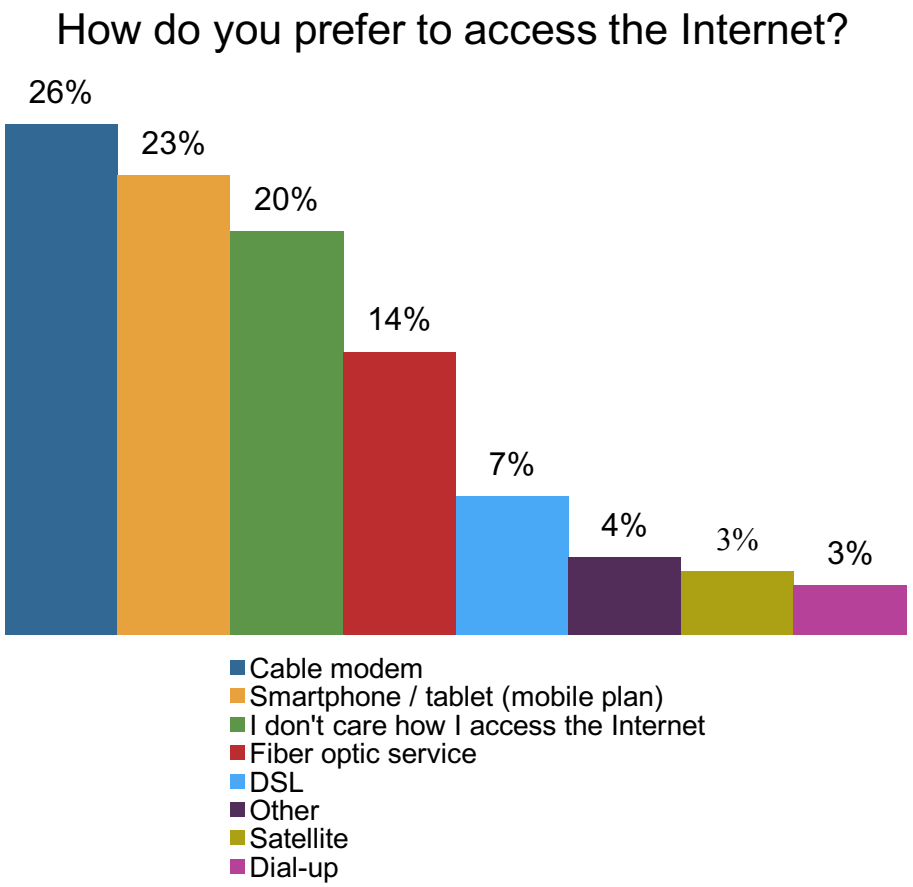
Note 1: Mobile Activities Question*
The second and third question in this report focus on various activities Americans perform on their mobile phones. Given that potential mobile activities are virtually limitless, we narrowed the answer options to a diverse and encompassing list of common activities; however, they are by no means fully exhaustive. Even with this narrower selection, we were left with 8 possible choices, and two opt-out selections. In our experience, questions with an unwieldy number of answer options (8 or more) yield lower response (or higher drop-out) rates, potentially creating latent biases in the remaining sample. To guard against this risk, we opted to break the question into two separate check-box questions, each with 6 possible options.

*Note 2**: Cross-tabulation Sample Sizes*
Due to the nature of the CivicScience collection methodology, not all attributes are known about every respondent in our sample at any given time. For example, some respondents may have encountered our Internet Activities question prior to having answered profile questions about their residential area. For the purposes of this study, Cross-tabulation tables only included respondents who had answered those key demographic questions AND the project research questions, within the study timeframe. As such, Cross-tab sample sizes for the Residential Area question are smaller than our top-line samples, but still statistically-significant in scale and representativeness.

*Note 3***: Cross-tabulations Analyzed*
CivicScience maintains extensive demographic and psychographic profiles of the respondents who have answered our survey questions over time. For the purposes of this report, we focused on subpopulations where variability in mobile Internet usage, means of access, and motivations were notable – namely respondent Age, Race, Residential Area, and Parental Status. We do not discuss Gender, for instance, where we found little relevant variability; however, those data are available upon request.

II- TOPLINE RESULTS AND KEY DEMOGRAPHIC CROSS-TABS

Question 1 (Internet Access Preference) – Topline Results

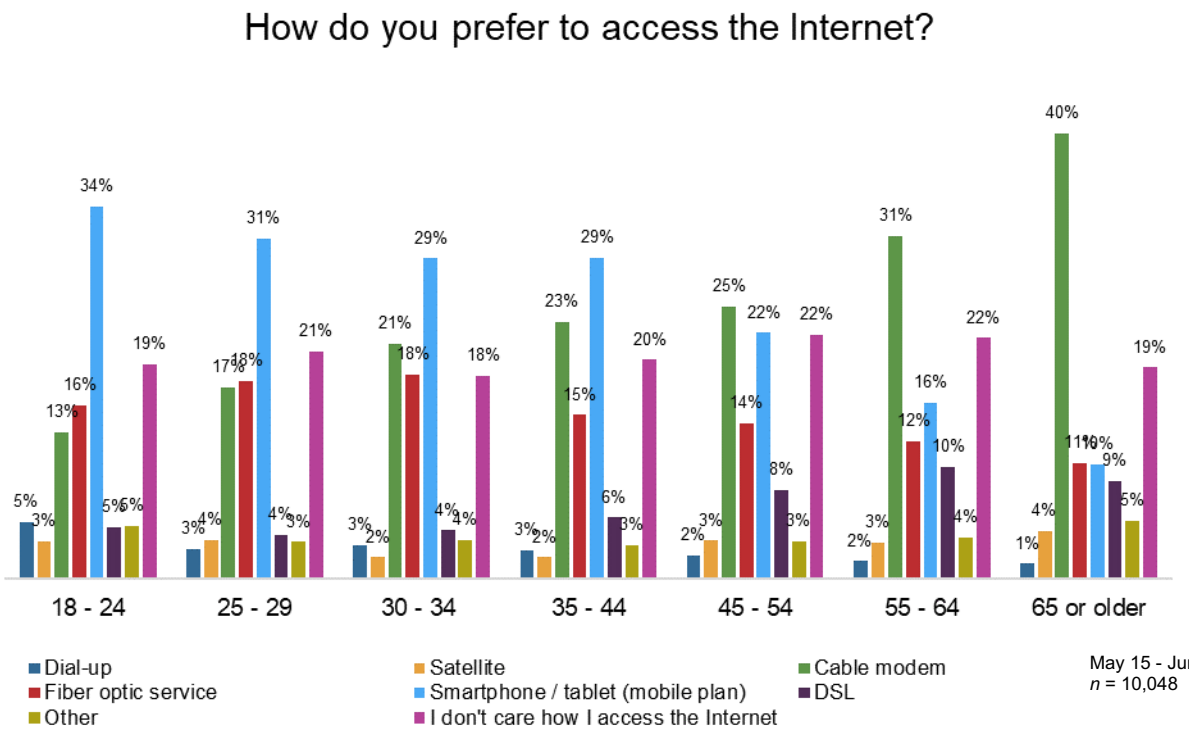


May 15 - June 10,2018
+/- 1%
n = 10,048

Question 1 (Internet Access Preference) – Topline Results Summary

The largest segment of U.S. adults prefers to access the Internet by way of a cable modem, with the second largest group preferring to use a mobile plan via their smartphone or tablet. One in five respondents said they “don’t care” how they access the Internet. Satellite and Dial-up are still preferred by small groups of U.S. consumers.

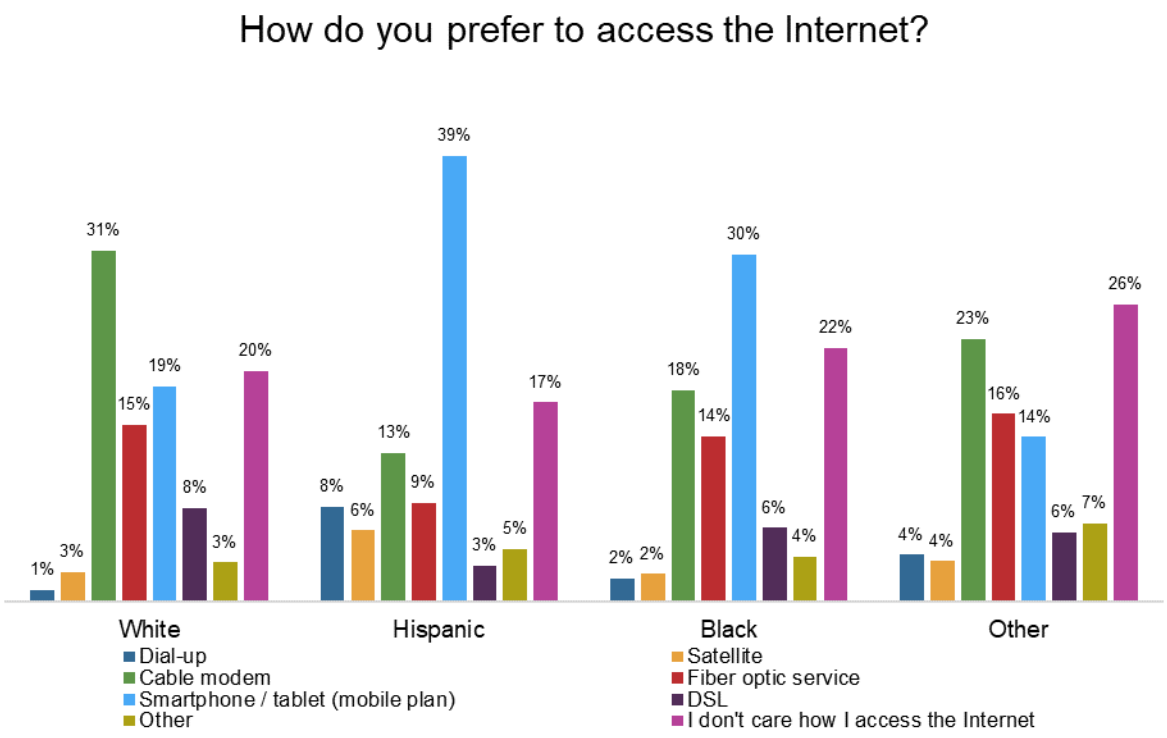
Question 1 (Internet Access Preference) – Age Cross-tab Results



Question 1 (Internet Access Preference) – Age Cross-tab Summary

The age-related skews in these results follow an intuitive pattern, with preference for Smartphone/Tablet access showing increasing prevalence among younger age groups and decreasing prevalence among older ones. Conversely, preference for Cable Modem and DSL rise in frequency among older respondents. Preference for fiber optic service peaks among 25-34-year-olds, declining steadily with each older age group from there. Older respondents are also the least likely to care how they access the Internet. Differences in Dial-up, Satellite, and "Other" are negligible across age groups.

Question 1 (Internet Activities 1) – Race Cross-tab Results

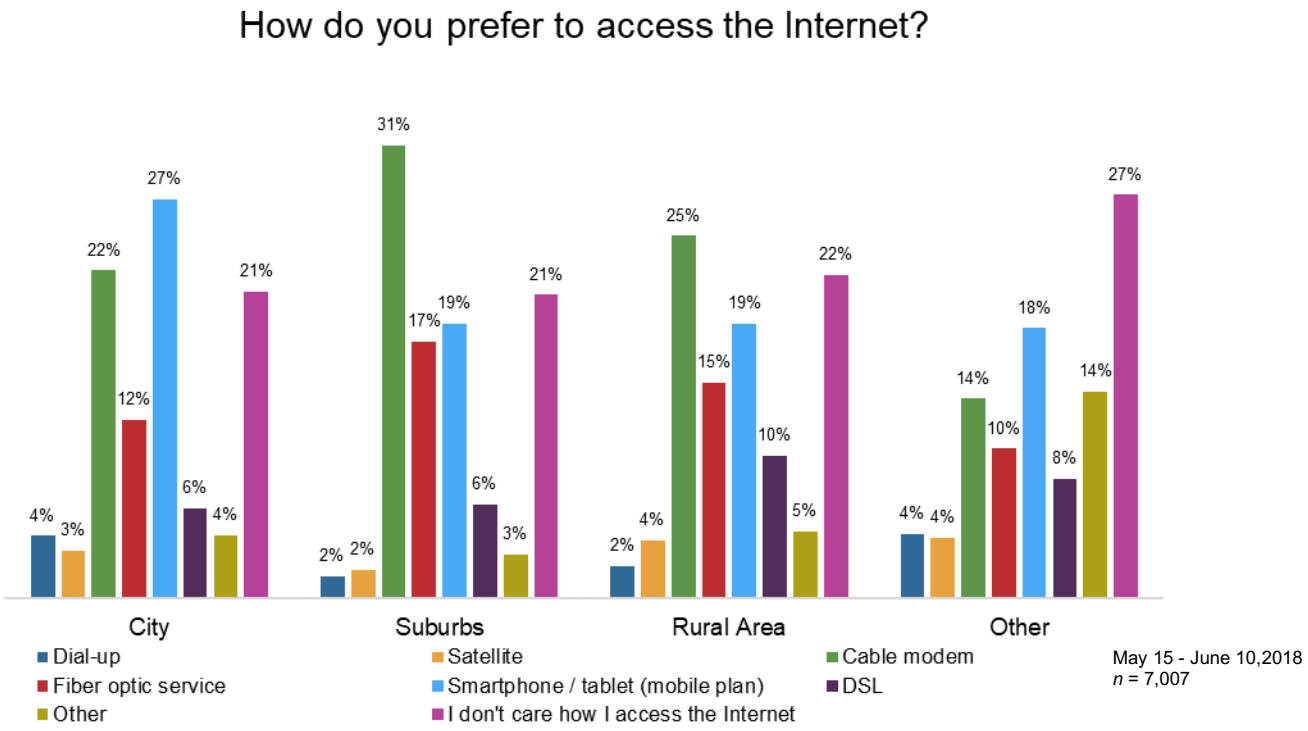


May 15 - June 10,2018
n = 8,993

Question 1 (Internet Access Preference) – Race Cross-tab Summary

Preference for Smartphone/Tablet access is significantly highest among Hispanic and Black respondents, with Cable Modem access highest among Whites and Other races. Cable Modem and Fiber Optic access is lowest among Hispanics. The remaining categories are relatively consistent across Race groups, varying by only a couple percentage points.

Question 1 (Internet Access Preference) – Residential Area Cross-tab Results

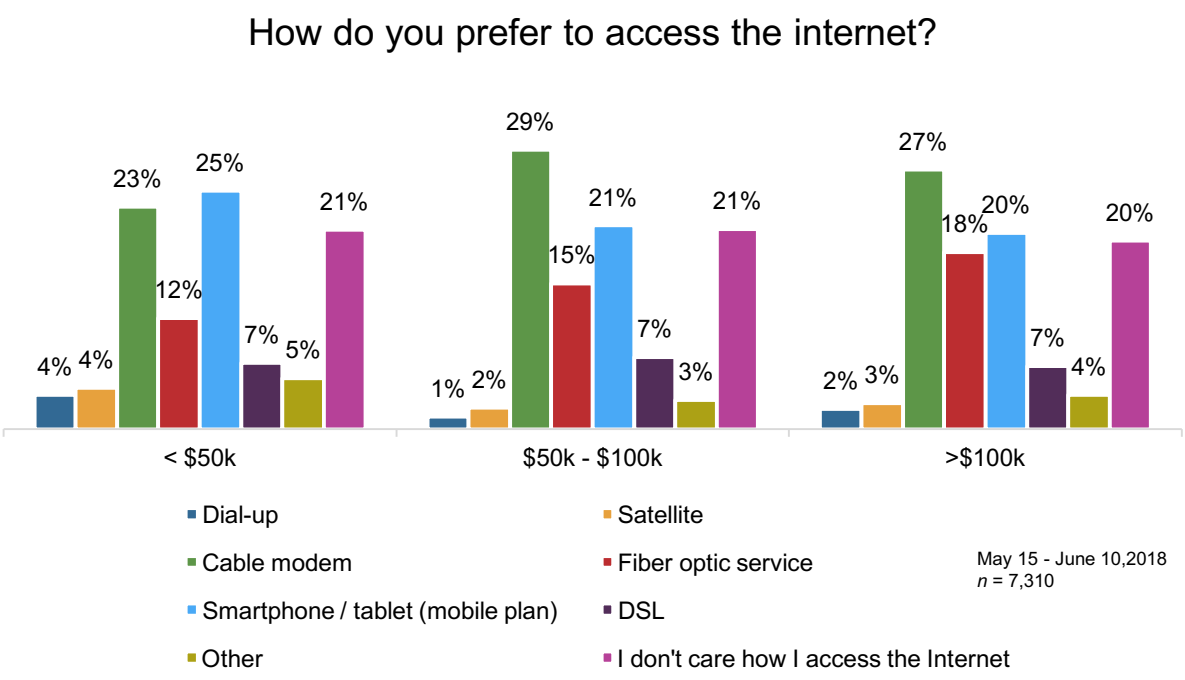


Question 1 (Internet Access Preference) – Residential Area Cross-tab Summary

Variability by Residential Area is unsurprising, with preference for Cable Modem and Fiber Optic Services prevailing in Suburban and Rural areas and Smartphone/Tablet prevailing in Urban ones. DSL is preferred most prominently in Rural areas, while Dial-up is slightly higher in Urban centers. Incidence rates of "I don't care" are remarkably consistent across the main Residential categories.

(Note: When analyzing Residential Area, the "Other" group constitutes 3% of all respondents and includes people who live on military bases, college campuses, and other non-traditional areas. Given the small numbers this group represents, we give them minimal attention in our analysis).

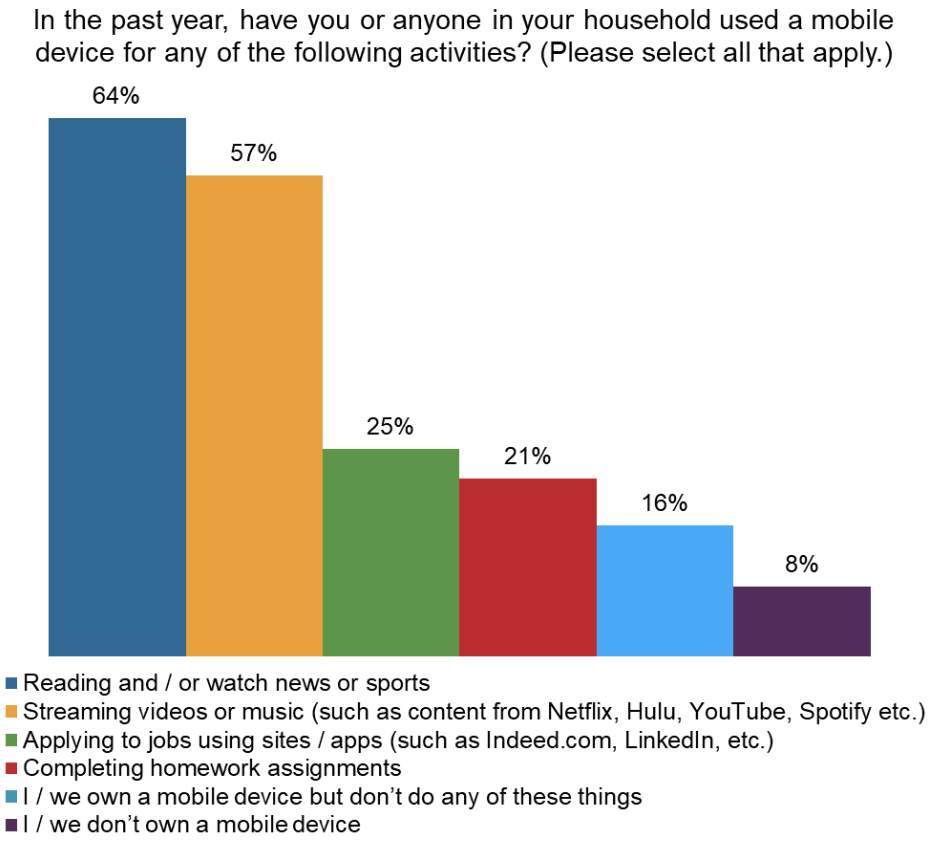
Question 1 (Internet Access Preference) – Income Cross-tab Results



Question 1 (Internet Access Preference) – Income Cross-tab Summary

Respondents in households making over $50,000/year in annual income prefer to access the Internet most commonly via cable modem or fiber optic service. Many consumers of all income levels express a preference for accessing the Internet through mobile broadband service. Consumers in all income groups state that they don't care how they access the Internet at about the same percentage.

Question 2 (Mobile Device Activities 1) – Topline Results

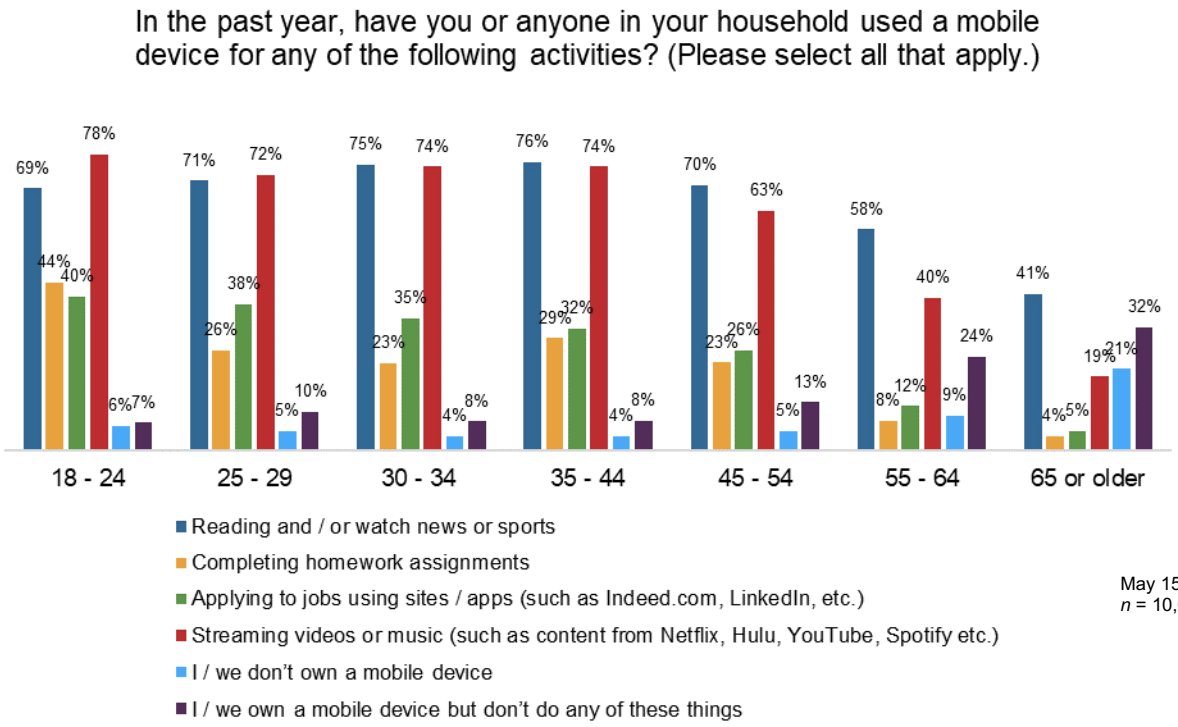


May 15 - June 10,2018
+/- 1%
n = 10,088

Question 2 (Mobile Device Activities 1) – Topline Results Summary

Over 76% of U.S. households use a mobile device to perform one or more of the activities included in this answer group. Over half of all Americans say that someone in their household uses their device to consume some form of news AND video content. One in four – or 27% of mobile device owners – use their device to apply for jobs online and slightly fewer use them to complete homework assignments.

Question 2 (Mobile Device Activities 1) – Age Cross-tab Results

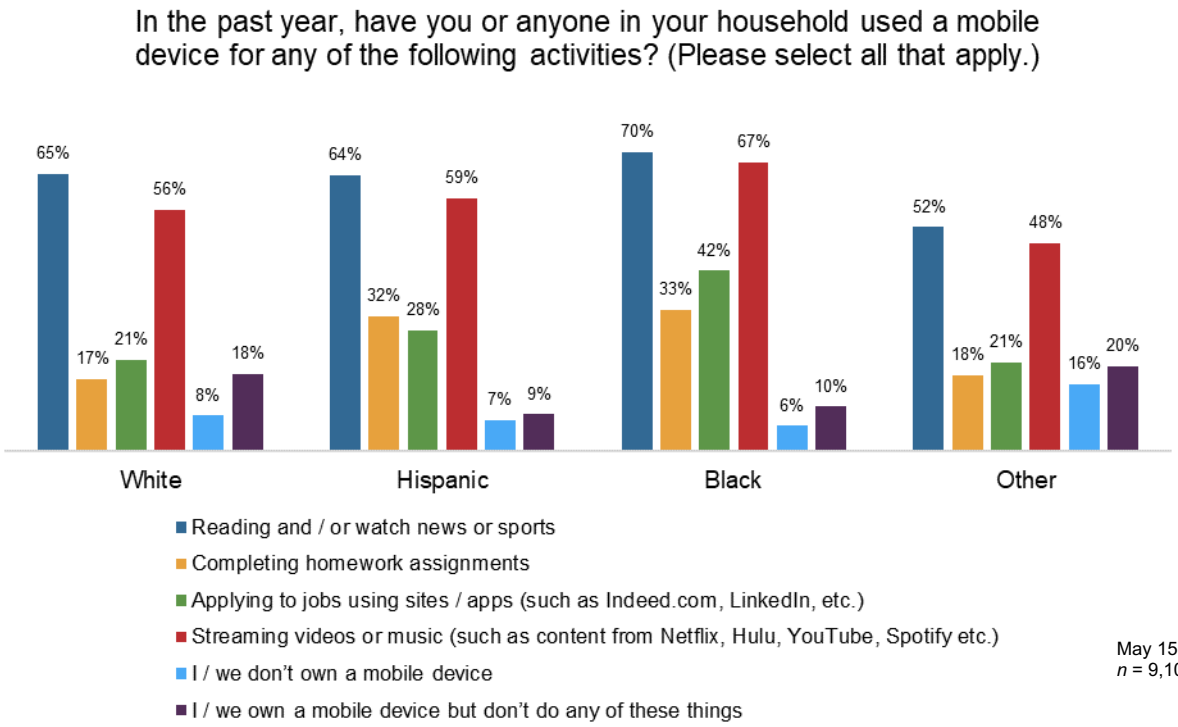


May 15 - June 10,2018
n = 10,088

Question 2 (Mobile Device Activities 1) – Age Cross-tab Summary

The age numbers follow a predictable pattern, yet remain remarkably consistent among Millennial and GenX respondents. Reading news or consuming videos and music are by far the most popular activities across these groups. Naturally, completing homework assignments and applying for jobs was most prevalent among younger groups.

Question 2 (Mobile Device Activities 1) – Race Cross-tab Results

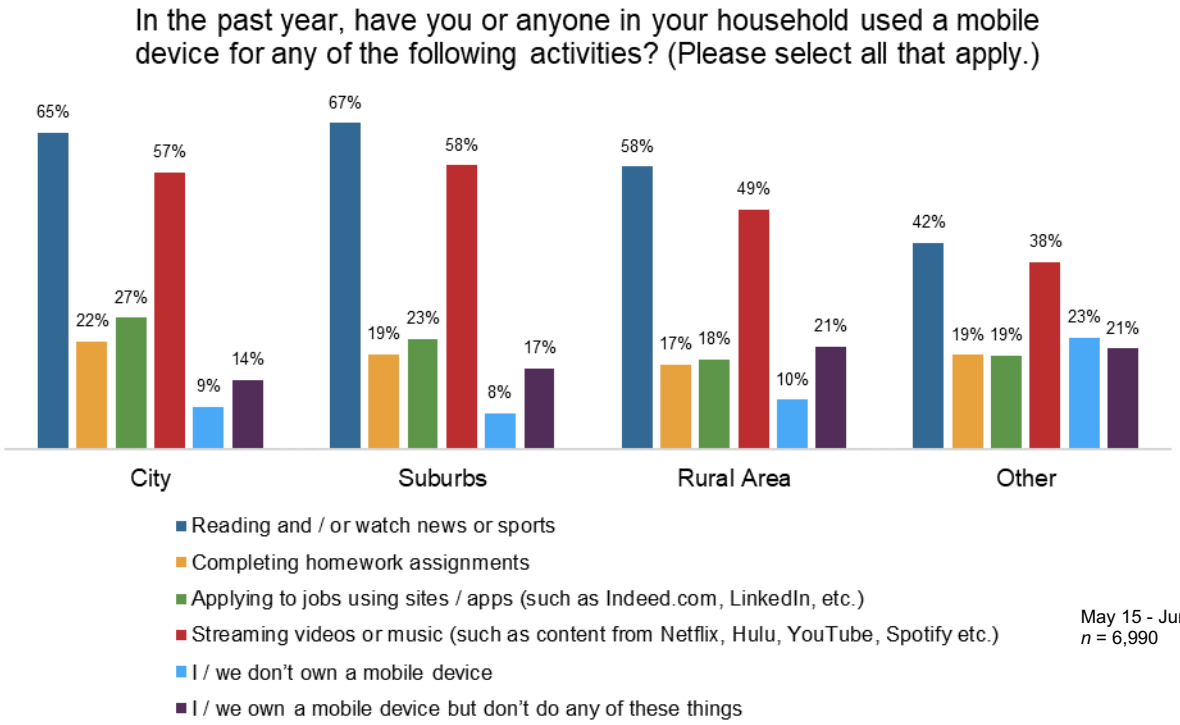


May 15 – June 10,2018
n = 9,108

Question 2 (Mobile Device Activities 1) – Race Cross-tab Summary

Black respondents were the most prolific users of their mobile devices for all activities in this subset; they're two times more likely than Whites to use their mobile device to apply for jobs and nearly twice as likely to use them for homework assignments. Hispanics and Whites are fairly similar in their usage, though Hispanics were much more likely to use their devices for job and homework purposes.

Question 2 (Mobile Device Activities 1) – Residential Area Cross-tab Results

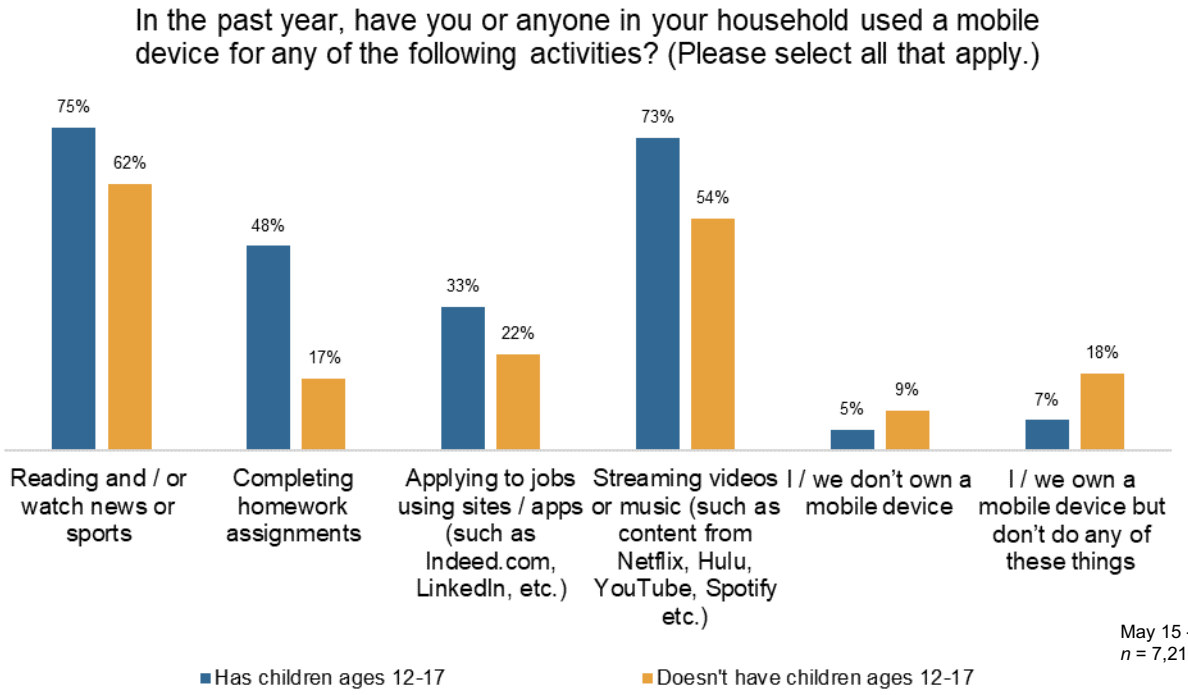


May 15 - June 10,2018
n = 6,990

Question 2 (Mobile Device Activities 1) – Residential Area Cross-tab Summary

Here we see very little variance in usage, particularly between urban and suburban respondents. Rural adults are the least likely to own a smartphone and/or to use their device for any of the activities in this subset. Likely a proxy for some of the Race-oriented observations in the prior chart, City-dwellers are the most likely to use their devices for job or school purposes.

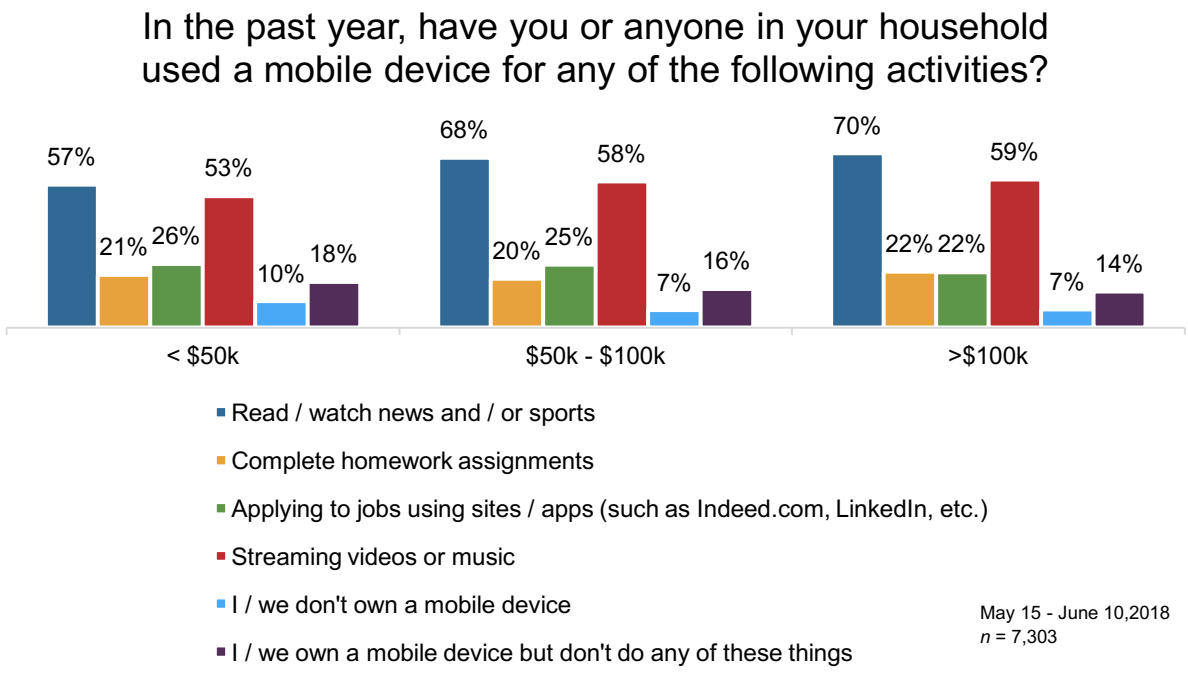
Question 2 (Mobile Device Activities 1) – Children Ages 12-17 Cross-tab Results



Question 2 (Mobile Device Activities 1) – Children Ages 12-17 Cross-tab Summary

For the two Activities questions, we also Cross-tabulated the results based on whether the respondent has children aged 12-17, roughly the time when most kids are gaining access to an Internet-enabled mobile device. As evidenced in the chart above, mobile usage activities vary fairly significantly between the two groups. Not surprisingly, nearly half of households with children use mobile devices to complete homeworking assignments, compared to just 17% otherwise. Households with 12-17-year-old children are more engaged in all activities.

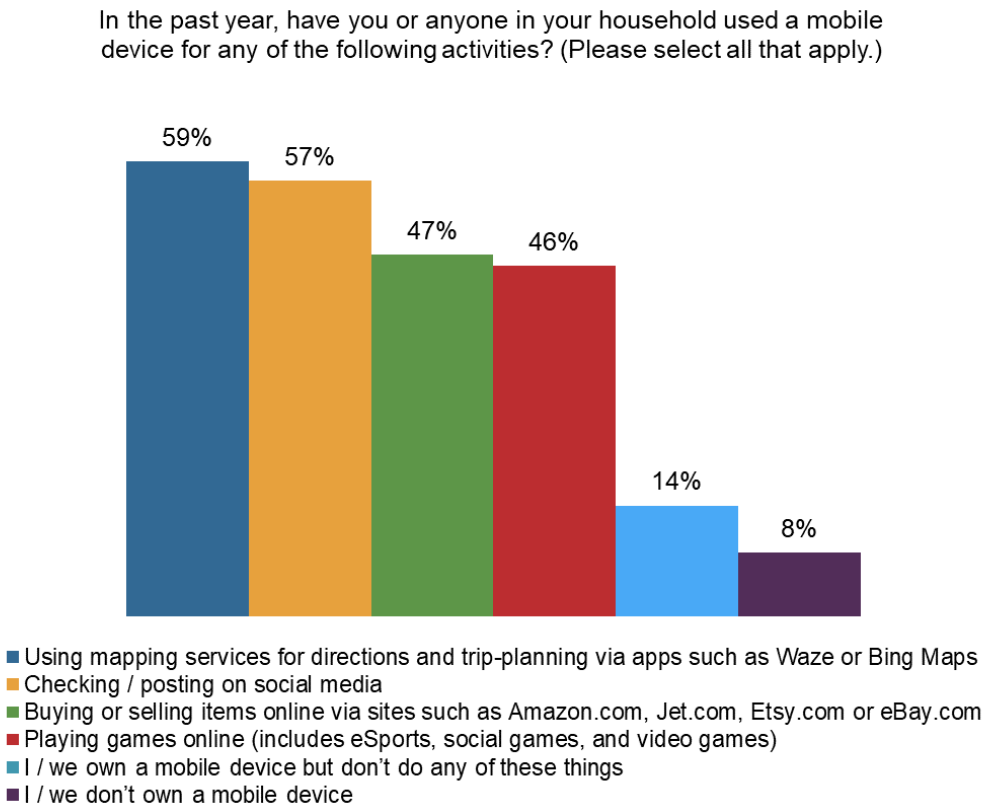
Question 2 (Mobile Device Activities 1) – Income Cross-tab Results



Question 2 (Mobile Device Activities 1) – Income Cross-tab Summary

Over 50% of consumers of all income levels indicate that they use mobile devices to stream video and music, as well as to read and watch news and sports. Higher income households are more likely than other groups to use a mobile device for general content consumption, ie. news or entertainment. Lower income respondents, however, were slightly more likely to report using a mobile device for job searching activities. Roughly 1 in 5 consumers across all income levels report using their mobile devices to complete homework assignments.

Question 3 (Mobile Device Activities 2)– Topline Results

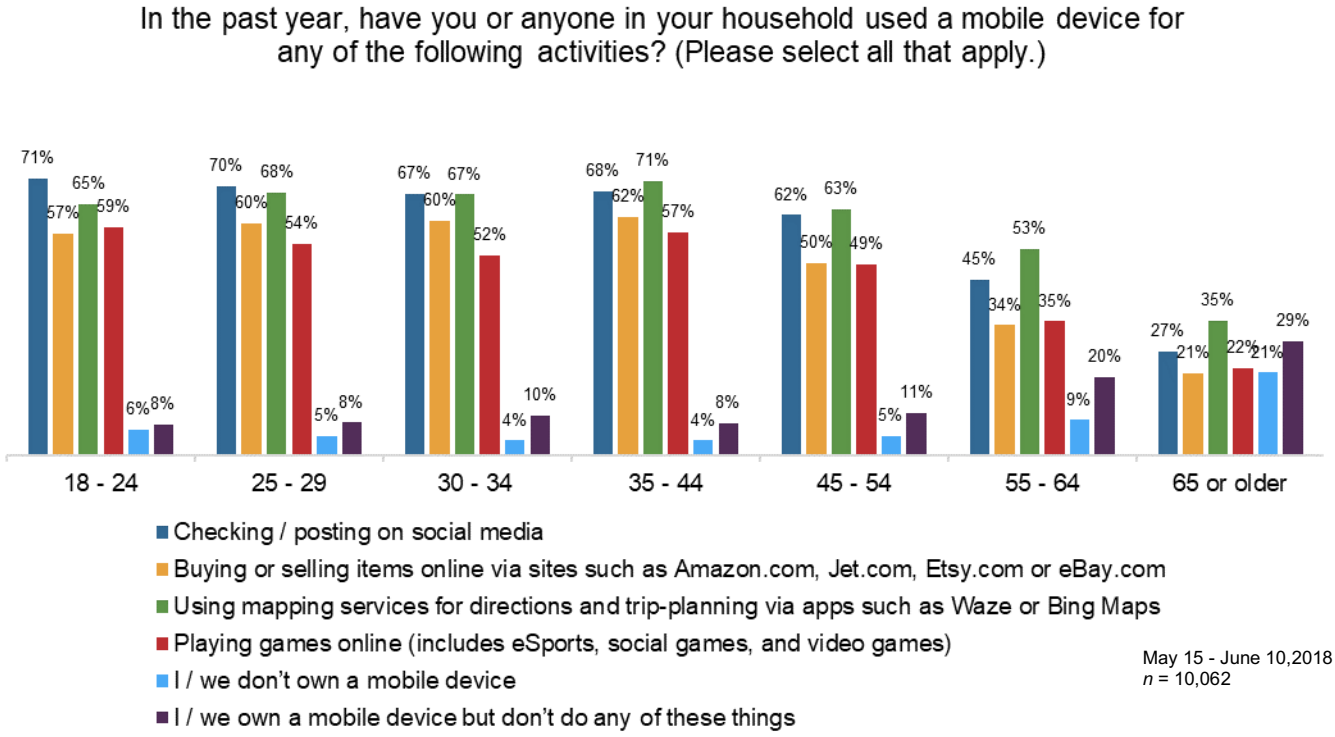


May 15 - June 0,2018
+/- 1%
n = 10,062

Question 3 (Mobile Device Activities 2)– Topline Results Summary

Here we see a slightly higher rate of usage across this subset, with 78% of U.S. households performing at one or more of these activities with their mobile devices. In fact, over half of all mobile user households perform at least two of these activities, with mapping services receiving the highest number of responses, followed closely by social media usage. Online commerce and gaming were still not far behind.

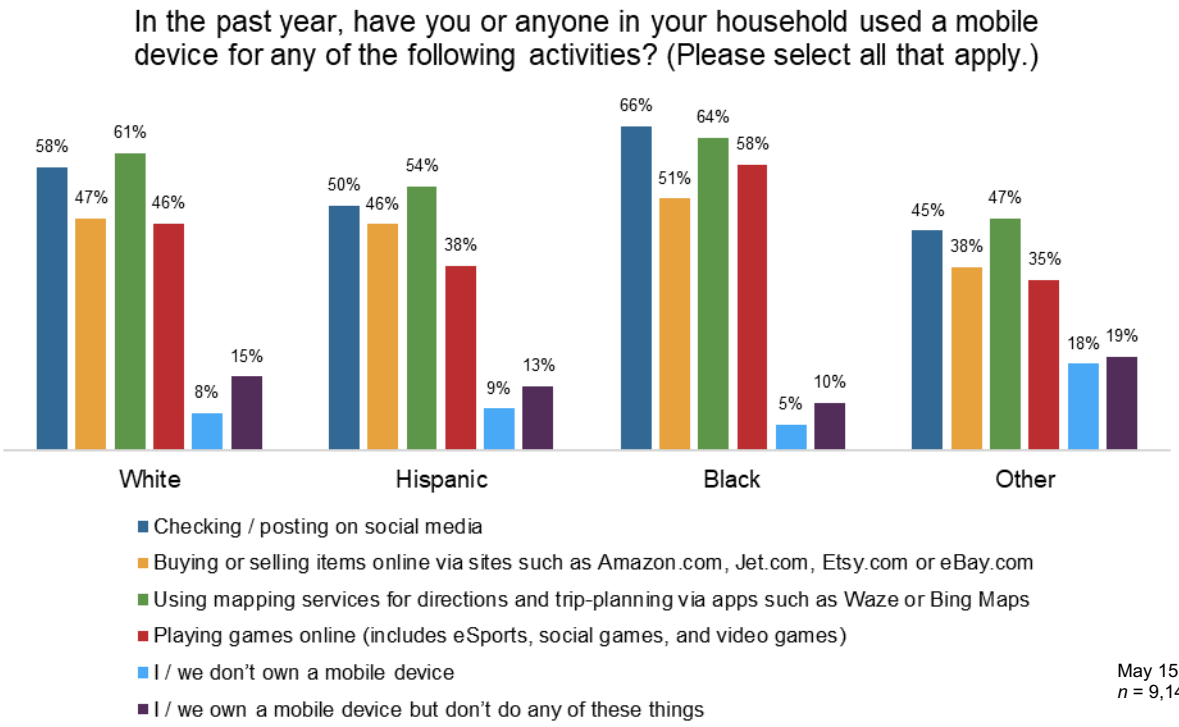
Question 3 (Mobile Device Activities 2) – Age Cross-tab Results



Question 3 (Mobile Device Activities 2)– Age Cross-tab Summary

Notably, the frequency of activities is uncannily consistent across age groups, particularly when results are rebased only among mobile user households (ie. the ratio of activity frequency to mobile user incidence in the age category). Minor and intuitive variances can be seen, for example, a higher rate of using mapping services among 30-44-year-olds or higher rates of gaming and social media usage among younger groups.

Question 3 (Mobile Device Activities 2) – Race Cross-tab Results

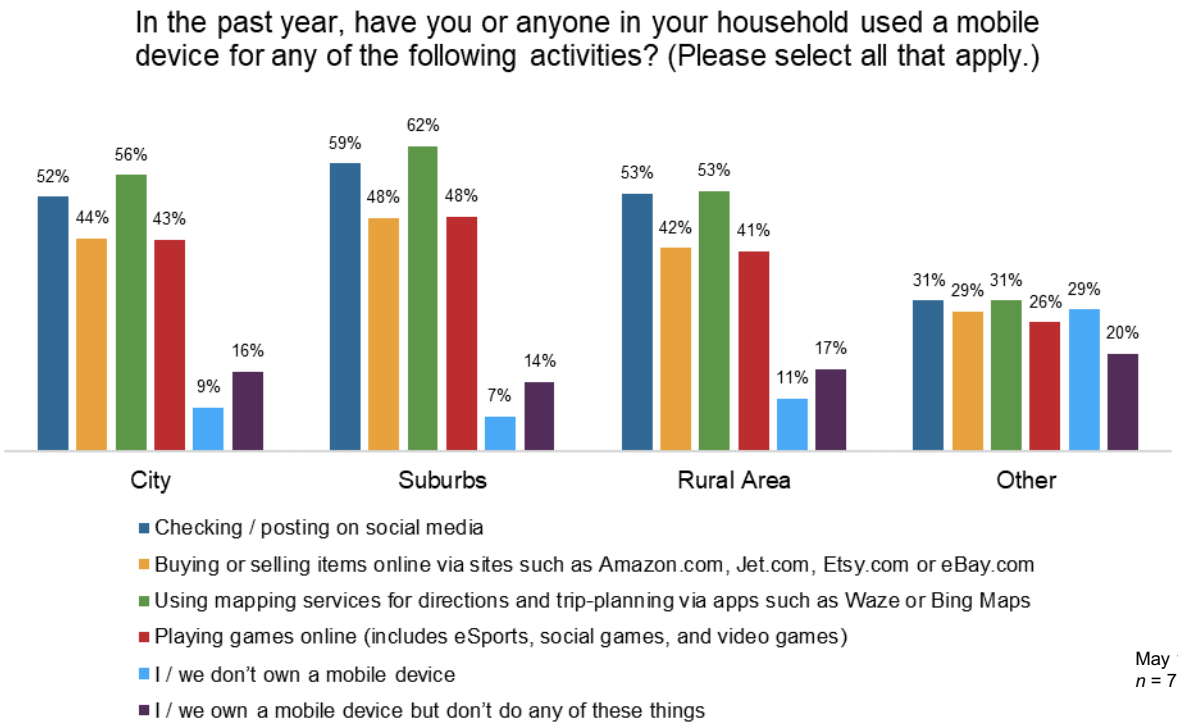


May 15 - June 10,2018
n = 9,144

Question 3 (Mobile Device Activities 2) – Race Cross-tab Summary

Here we see a little more contrast – and a similar pattern as our first activities question – as Black respondents are clearly the most prolific in their use of a mobile device for all of these activities. They're the lone group where social media usage comes in higher than mapping services and playing games comes in higher than online retail. Conversely, Hispanic respondents were the least likely to use a mobile device for any of these activities, relative to Whites or Blacks.

Question 3 (Mobile Device Activities 2)– Residential Area Cross-tab Results

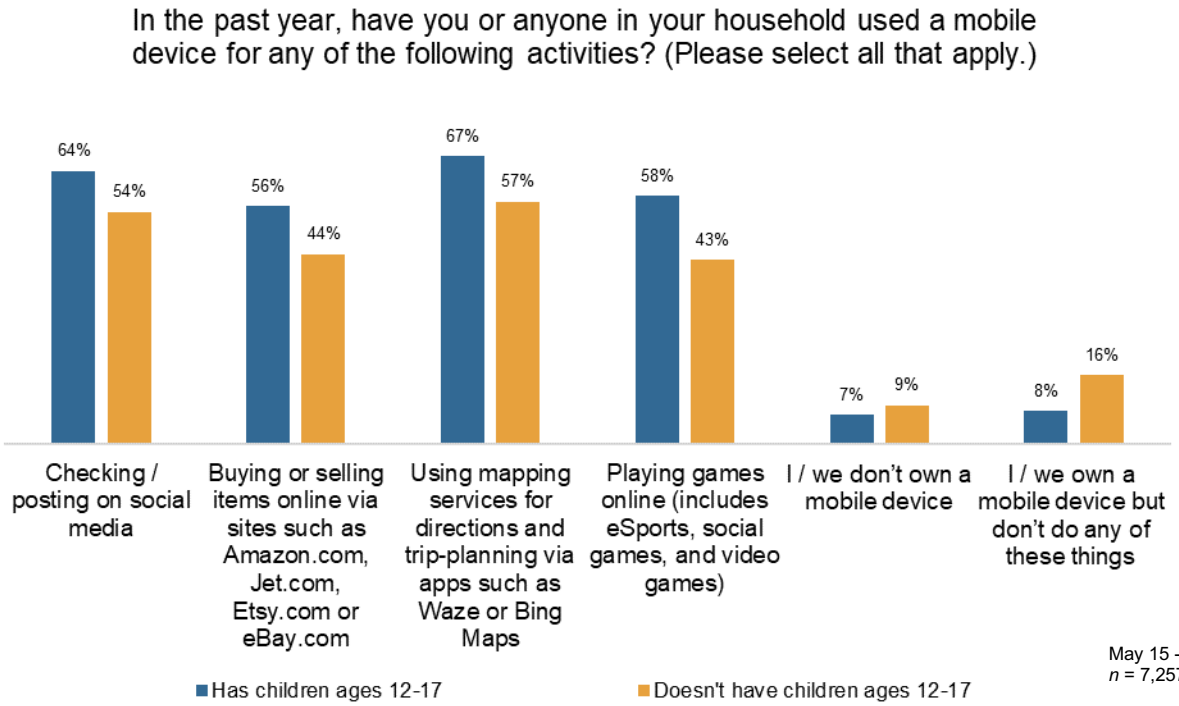


May 15 - June 10,2018
n = 7,030

Question 3 (Mobile Device Activities 2)– Residential Area Cross-tab Summary

Like the age Cross-tabs, rates of usage in this activity subset are fairly consistent across residential area, particularly when rebased only among mobile user households. Suburban respondents are the most likely to use their device for mapping services, which makes sense given the higher rates of driving in those areas. Otherwise, there is little to note from this chart other than its lack of noteworthiness.

Question 3 (Mobile Device Activities 2) – Children Ages 12-17 Cross-tab Results

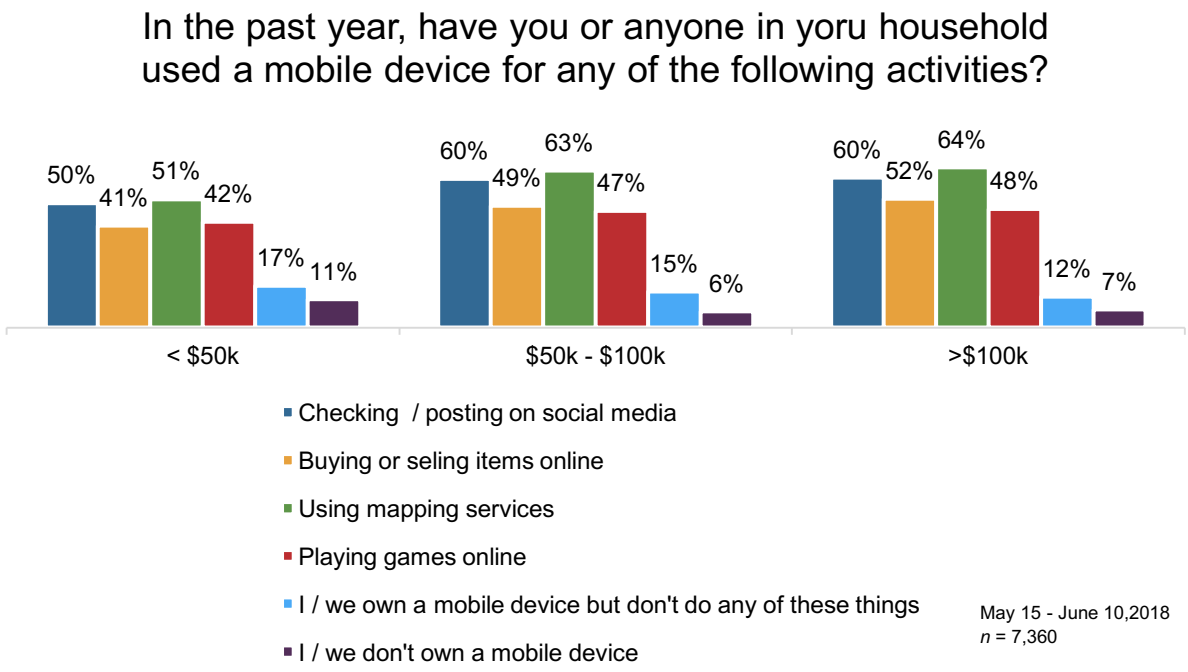


May 15 - June 10,2018
n = 7,257

Question 3 (Mobile Device Activities 2) – Children Ages 12-17 Cross-tab Summary

Similar to our first set of activities, we see that households with children aged 12-17 use their mobile devices for each function more than households without children age 12-17. Playing games online has the highest delta between the two groups, while checking social media is the most similar.

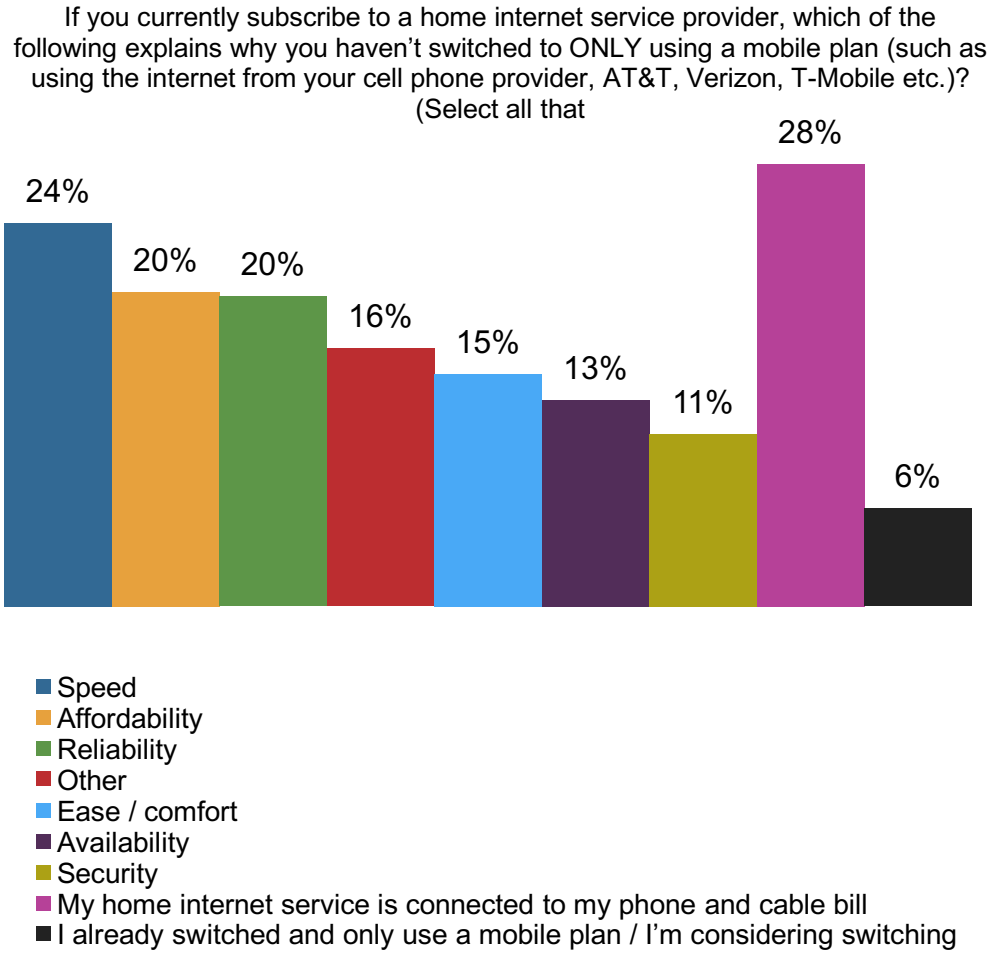
Question 3 (Mobile Device Activities 2) – Income Cross-tab Results



Question 3 (Mobile Device Activities 2) – Income Cross-tab Summary

In all groups, using a mobile device for mapping services is the most commonly reported activity. At least 50% of consumers at all income levels also say that they use their mobile devices for checking and posting on social media. About 41% of low income consumers report buying or selling items online with their mobile devices, while 52% of higher income consumers report doing so.

Question 4 (Reluctance to Switch to Mobile Plans) – Topline Results

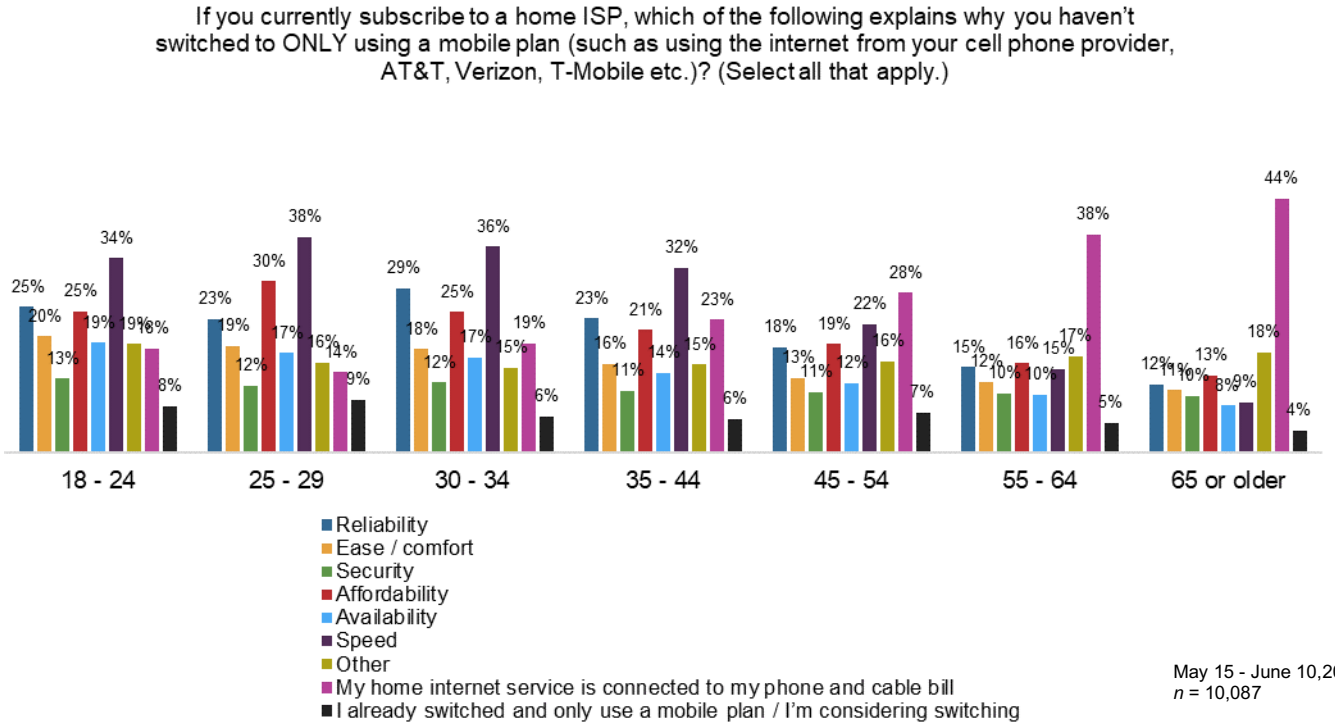


May 15 - June 10,2018
+/- 1%
n = 10,087

Question 4 (Reluctance to Switch to Mobile Plans) – Topline Results Summary

U.S consumers list a number of reasons for choosing not to switch their primary Internet service to a mobile-only plan. The most common reason is that many respondents have their home Internet service bundled with their phone and cable bill. Otherwise, the deterrents are spread somewhat evenly with fears of slower Internet speed and reliability of service ranking highly.

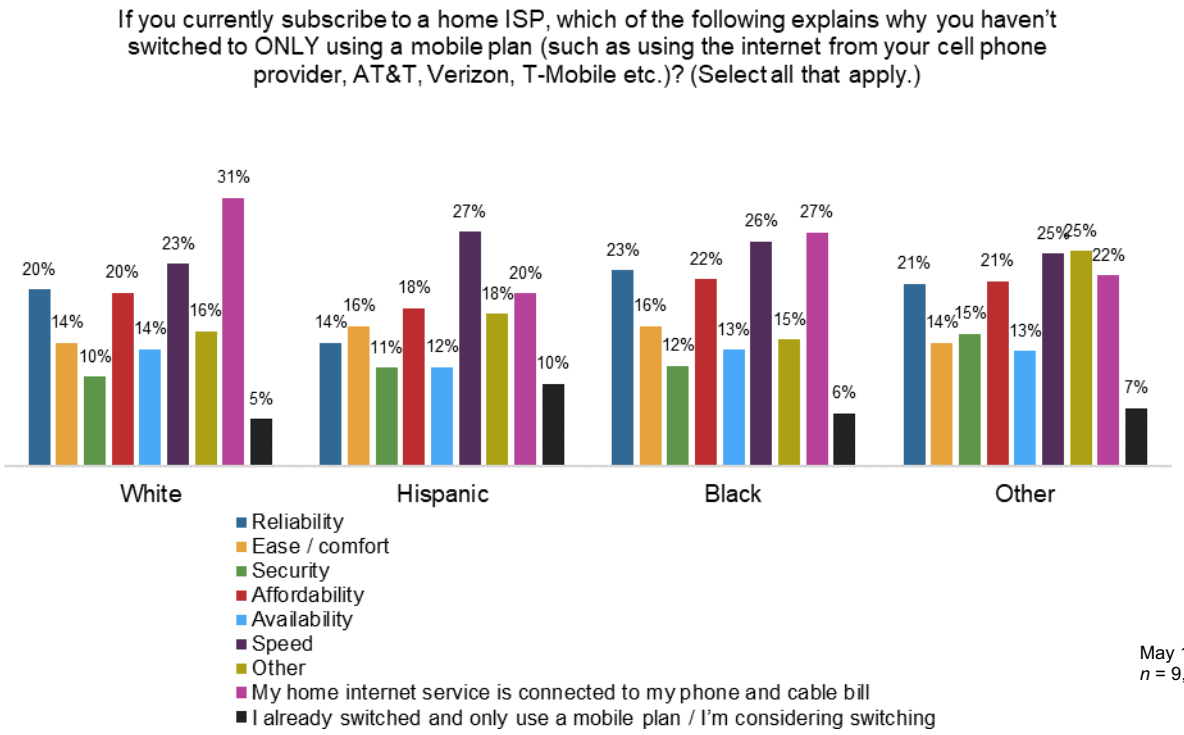
Question 4 (Reluctance to Switch to Mobile Plans) – Age Cross-tab Results



Question 4 (Reluctance to Switch to Mobile Plans) – Age Cross-tab Summary

The age breakdown tells a different story than our topline figures for this question. Speed is the number one concern among all categories under age 45, presumably because of higher rates of overall usage and media consumption in these groups. Consumers aged 45 and over report that the main reason they have not switched to mobile-only Internet access is that their Internet services is bundled with their phone and cable service. Reliability peaks in importance among 30-34-year-olds, while affordability ranks highest among respondents age 25-29.

Question 4 (Reluctance to Switch to Mobile Plans) – Race Cross-tab Results

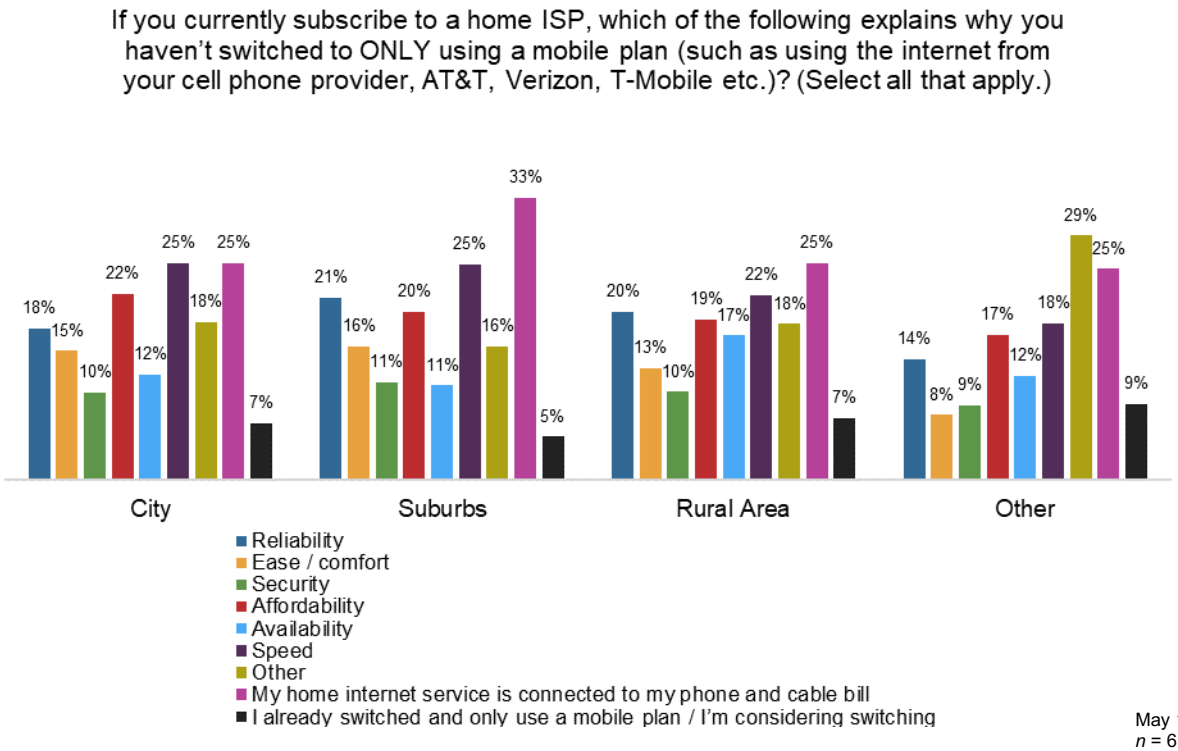


May 15 - June 10,2018
n = 9,200

Question 4 (Reluctance to Switch to Mobile Plans) – Race Cross-tab Summary

We see some variance in reasons for reluctance by race. White and Black respondents were most likely to cite the connection between their home Internet service, phone, and cable bills. Hispanic respondents were less likely to cite this reason, identifying speed as the biggest deterrent by a sizable margin. Black respondents over-indexed in their selection of Reliability and Hispanics were the most likely of all groups to have already switched to a mobile plan.

Question 4 (Reluctance to Switch to Mobile Plans) – Residential Area Cross-tab Results

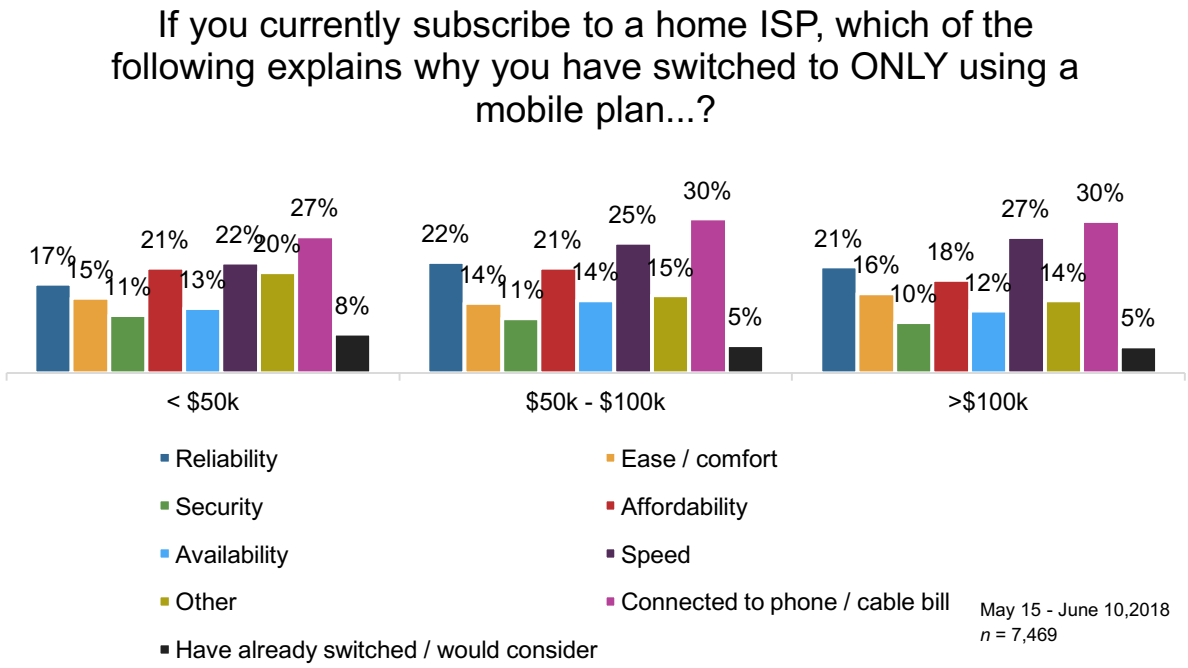


May 15 - June 10,2018
n = 6,967

Question 4 (Reluctance to Switch to Mobile Plans) – Residential Area Cross-tab Summary

The value placed on bundling of Internet, phone, and cable is highest among suburban residents, but remains the top choice among all the three main groups. Speed and affordability comprise 47% of responses among city dwellers. Beyond that, the differences are minimal, and reasons are fairly even in their distribution.

Question 4 (Reluctance to Switch to Mobile Plans) – Income Cross-tab Results



Question 4 (Reluctance to Switch to Mobile Plans) – Income Cross-tab Results

Reliability is more of a concern among people making more than $50,000 per year, and higher income is correlated with more concerns about speed. Households with income under $50,000 per year have concerns about switching to mobile-only because of their bundle with phone/cable (27%), speed (22%), and THEN affordability (21%). Lower-income and middle-income respondents are equally concerned with affordability. People making under $100,000 per year are only slightly more cost-conscious than people making over $100k (18%).

III-CONCLUSION

The data collected for this project represent a straight-forward and unsurprising view of Americans' mobile habits and attitudes. While mobile usage overall and the breadth of activities on mobile have increased, those numbers are likely to continue surging, given the reliance on mobile devices among younger and high-growth demographic groups. As consumers develop more confidence with the speed, reliability, and other aspects of mobile Internet access, the distinction between wired and mobile Internet access will further dissolve.

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